

Montana K-12 Content Standards Frameworks

- Science • Information Literacy/Library Media • Technology • Mathematics
- Communication Arts • Arts • Career and Vocational Technical Education
- Health Enhancement • Social Studies • Workplace Competencies • World Languages



opi.mt.gov

This publication is in the public domain. Authorization to reproduce it in whole or in part is granted. While permission to reprint this publication is not necessary, the citation should be: Montana Office of Public Instruction. Accreditation Division, Curriculum and Instruction Unit. *Montana K-12 Content Standard Frameworks*. Helena, MT, 2010.

Introduction

In 2005 the Montana Board of Public Education initiated the Standards Revision Project to assure Montana citizens that its public schools are providing **all** children of our great state with challenging academic expectations. The Montana Board of Public Education is charged with the responsibility of leading a process of standards revision that meets the following guiding principles.

Revised learning standards which are academic in focus, rigorous but attainable, readily understandable, and designed to measure the progress of students toward meeting them, will lead to the improvement of Montana's schools and a brighter future for our people.

Revised standards must clearly and consistently identify what students should know, understand and be able to do. Parents, educators, and the greater Montana community must be involved in the revision process. Revised standards will provide a framework to help guide local curriculum and instruction, encouraging school districts and teachers to place emphasis on critical areas of learning. In addition, standards should be measured and made known to the Montana public.

With the vital purpose of improving Montana's schools as our goal, the Montana Board of Public Education sets forth the following criteria to guide the Standards Revision:

1. Standards will be academic in nature and content specific.
2. Standards will be challenging and rigorous.
3. Standards will be clear, understandable and free of jargon.
4. Standards will be measurable.
5. Standards will address diversity specifically fulfilling the commitment to implementing MCA 20-1-501, Indian Education for All.

With the purpose of developing a successful and useful product, the Montana Board of Public Education sets forth the following process to guide the Montana Standards Revision:

1. Use the existing Montana Standards Framework - current accreditation program delivery and foundation standards, content and performance standards and benchmarks, and existing structure (4th, 8th, and upon graduation);
2. Use proven practices from Montana classrooms;
3. Consider international, national and other states' standards;
4. Consider entrance expectations for workplace and postsecondary education;
5. Consider achievement and other related data;
6. Consider other research e.g., Education Northwest, School Redesign Network, National Study of School Evaluation, etc.;
7. Consider comments from professional education associations;
8. Consider comments from tribal and school district educators;
9. Consider recommendations from the Montana Advisory Council for Indian Education; and
10. Involve the Montana public.

Pursuant to Article X Sect 1(2) of the Constitution of the state of Montana and statutes §20-1-501 and §20-9-309 2(c) MCA, the implementation of these standards must incorporate the distinct and unique cultural heritage of Montana American Indians.

Standards Review Schedule

2005-2011
Revised July 2009

In March 2005, the Board approved the Standards Review Schedule (ARM 10.54.2503) to begin July 2005. The Office of Public Instruction (OPI) presents the schedule below.

Standards Review Schedule		
Cycle I	Science	Adopted November 2006
Cycle II	Information Literacy/ Library Media Technology	Adopted August 2008
Cycle III	Mathematics Communication Arts	Adopted Mathematics - November 2009 Communication Arts - January 2010
Cycle IV	Career and Technology Education Workplace Competencies	Proposed 2009-2010
Cycle V	Social Studies Arts	Proposed 2010-2011
Cycle VI	World Languages Health Enhancement	Proposed 2011-2012

Standards Review Process

The Office of Public Instruction will facilitate the standards review process by:

- Adhering to the Board of Public Education Statement of Purpose;
- Announcing the Standards Review Schedule through official e-mail, MASS Notes, post information on the OPI Web page, and networks of professional education associations;
- Calling for nominations from the Montana Pre-K- postsecondary education community and public to participate in the process;
- Conducting focus group discussions to gather information related to K-12 content standards;
- Identifying writing team membership and dates for work sessions; and
- Establishing an inclusive communication plan and thorough public comment process.

Components of the Montana Content Standard Frameworks

It is the responsibility of Montana schools to provide students with a quality education that encompasses opportunities to learn the knowledge and skills outlined in the Montana Content Standards. As schools and educators work to provide this quality education they will need to utilize the Content Standard Frameworks contained in this publication.

The Montana Content Standard Frameworks are sets of agreements, rationales, and rules that provide the foundation for standards-based education in Montana. The frameworks are the blueprint for further development of key components, such as Essential Learning Expectations, Performance Rubrics, and curriculum (see graphic on following page). The content standard frameworks contain:

- K-12 content standards;
- rationale for each content standard;
- benchmarks at the end of grade 4, end of grade 8, and upon graduation; and
- performance descriptors at the levels of novice, nearing proficiency, proficient and advanced.

In order to use the frameworks effectively, it is essential to understand the distinctions between and intended purpose of the various components.

Content Standards: The content standards indicate what all students should know, understand, and be able to do in a content area. Their purpose is to guide the curriculum and to communicate the breadth of the knowledge and skills to be taught to all students. A district's curriculum should be designed so that learning encompasses all content area standards.

Rationales: Outlines the fundamental reasons for each of the content standards and provides the basis for the knowledge and skills included in the benchmarks.

Benchmarks: The benchmarks define expectations for students' scientific knowledge and skills along a developmental continuum. They define expectations for proficient students at the end of grade 4, end of grade 8, and upon graduation. Their purpose is to state clearly and specifically what the students should know and be able to do within each content standard. A district's curriculum should include the entire progression of knowledge contained in the benchmarks.

Performance Descriptors: Performance descriptors define how well students apply the knowledge and skills they have acquired. They gauge the level to which benchmarks have been attained in terms of range, frequency, facility, depth, creativity and quality. Achievement of curricular goals is assessed by the performance descriptors.

MONTANA STANDARD-BASED EDUCATION

TO IMPROVE LEARNING AND TEACHING

K-12 CONTENT STANDARDS

What all Montana students will know, understand and be able to do when they graduate from high school, ready for work and postsecondary education.

BENCHMARKS

Check points along the K-12 continuum to assess student progress toward meeting standards.

End of Grade 4

End of Grade 8

Upon Graduation

PERFORMANCE DESCRIPTORS

How well students apply knowledge, skills and abilities.

Novice			Nearing Proficiency			Proficient			Advanced		
Grade 4	Grade 8	Grade 12	Grade 4	Grade 8	Grade 12	Grade 4	Grade 8	Grade 12	Grade 4	Grade 8	Grade 12

ESSENTIAL LEARNING EXPECTATIONS

The Essential Learning Expectations are specific statements of what all students should know and be able to do at a grade level. It measures student progress toward meeting a Benchmark.

K	1	2	3	4	5	6	7	8	9	10	11	12
---	---	---	---	---	---	---	---	---	---	----	----	----

STANDARDS-BASED EDUCATION IMPLEMENTATION

Professional Development and Technical Assistance

Ongoing opportunities using statewide, regional and local delivery venues.

Model Curriculum

Research-Based
Instructional Strategies

Model Classroom
Assessment

EDUCATOR PREPARATION PROGRAMS

Initial and advanced educator preparation programs and professional development.

CHART KEY

Blue – Approved in Administrative Rules of Montana by the Montana Board of Public Education
Aqua – Approved by the Superintendent of Public Instruction
Lavender – Guidance and Regional Ongoing Professional Development
Green – Professional Educator Preparation Program Standards (PEPPS) and On-Site Review Process

MONTANA CONTENT STANDARDS AT-A-GLANCE

Arts	Standard 1 Students create, perform/exhibit, and respond in the Arts.	Standard 2 Students apply and describe the concepts, structures, and processes in the Arts.	Standard 3 Students develop and refine arts skills and techniques to express ideas, pose and solve problems, and discover meaning.	Standard 4 Students analyze characteristics and merits of their work and the work of others.	Standard 5 Students understand the role of the Arts in society, diverse cultures, and historical periods.	Standard 6 Students make connections among the Arts, other subject areas, life, and work.
	Standard 1 Students experience various career opportunities and assess personal career pathways.	Standard 2 Students demonstrate an understanding and apply principles of Resource Management (i.e., financial, time, personal management).	Standard 3 Students acquire and utilize personal and leadership skills to become successful, productive citizens.	Standard 4 Students acquire and demonstrate current technical skills leading to an occupation.	Standard 5 Students know and demonstrate the requirements of the workplace through authentic application.	
Career and Technical Education	Standard 1 <i>Speaking and Listening:</i> Students know and understand the role of the communication process and demonstrate effective speaking and listening skills.	Standard 2 <i>Reading:</i> Students read by applying foundational skills and strategies to comprehend, interpret, analyze, and evaluate texts.	Standard 3 <i>Literature:</i> Students select, interpret, and respond to a range of literature.	Standard 4 <i>Media Literacy:</i> Students effectively evaluate and create media messages.	Standard 5 <i>Writing:</i> Students will write to communicate effectively for a variety of purposes and audiences.	
	Standard 1 Students have a basic knowledge and understanding of concepts that promote comprehensive health.	Standard 2 Students demonstrate competency in a variety of movement forms.	Standard 3 Students apply movement concepts and principles while learning and developing motor skills.	Standard 4 Students achieve and maintain a challenging level of health-related physical fitness.	Standard 5 Students demonstrate the ability to use critical thinking and decision making to enhance health.	Standard 6 Students demonstrate interpersonal communication skills to enhance health.
Communication Arts	Standard 1 Students have a basic knowledge and understanding of concepts that promote comprehensive health.	Standard 2 Students demonstrate competency in a variety of movement forms.	Standard 3 Students apply movement concepts and principles while learning and developing motor skills.	Standard 4 Students achieve and maintain a challenging level of health-related physical fitness.	Standard 5 Students demonstrate the ability to use critical thinking and decision making to enhance health.	Standard 6 Students demonstrate interpersonal communication skills to enhance health.
	Standard 1 Students have a basic knowledge and understanding of concepts that promote comprehensive health.	Standard 2 Students demonstrate competency in a variety of movement forms.	Standard 3 Students apply movement concepts and principles while learning and developing motor skills.	Standard 4 Students achieve and maintain a challenging level of health-related physical fitness.	Standard 5 Students demonstrate the ability to use critical thinking and decision making to enhance health.	Standard 6 Students demonstrate interpersonal communication skills to enhance health.
Health Enhancement	Standard 1 Students have a basic knowledge and understanding of concepts that promote comprehensive health.	Standard 2 Students demonstrate competency in a variety of movement forms.	Standard 3 Students apply movement concepts and principles while learning and developing motor skills.	Standard 4 Students achieve and maintain a challenging level of health-related physical fitness.	Standard 5 Students demonstrate the ability to use critical thinking and decision making to enhance health.	Standard 6 Students demonstrate interpersonal communication skills to enhance health.
	Standard 1 Students have a basic knowledge and understanding of concepts that promote comprehensive health.	Standard 2 Students demonstrate competency in a variety of movement forms.	Standard 3 Students apply movement concepts and principles while learning and developing motor skills.	Standard 4 Students achieve and maintain a challenging level of health-related physical fitness.	Standard 5 Students demonstrate the ability to use critical thinking and decision making to enhance health.	Standard 6 Students demonstrate interpersonal communication skills to enhance health.

MONTANA CONTENT STANDARDS AT-A-GLANCE

Information Literacy/Library Media	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5
	A student must identify the task and determine the resources needed.	A student must locate sources, use information, and present findings.	A student must evaluate the product and learning ethically and legally.	A student must use information safely.	A student must pursue personal interests through literature and other creative expressions.
Mathematics	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5
	<p>Number Sense and Operation: A student, applying reasoning and problem solving, will use number sense and operations to represent numbers in multiple ways, understand relationships among numbers and number systems, make reasonable estimates, and compute fluently within a variety of relevant cultural contexts, including those of Montana American Indians.</p>	<p>Data Analysis: A student, applying reasoning and problem solving, will use data representation and analysis, simulations, probability, statistics, and statistical methods to evaluate information and make informed decisions within a variety of relevant cultural contexts, including those of Montana American Indians.</p>	<p>Geometric Reasoning: A student, applying reasoning and problem solving, will understand geometric properties, spatial relationships, and transformation of shapes, and will use spatial reasoning and geometric models to analyze mathematical situations within a variety of relevant cultural contexts, including those of Montana American Indians.</p>	<p>Algebraic and Functional Reasoning: A student, applying reasoning and problem solving, will use algebraic concepts and procedures to understand processes involving number, operation, and variables and will use procedures and function concepts to model the quantitative and functional relationships that describe change within a variety of relevant cultural contexts, including those of Montana American Indians.</p>	

MONTANA CONTENT STANDARDS AT-A-GLANCE

Science	Standard 1 Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations.	Standard 2 Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.	Standard 3 Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.	Standard 4 Students, through the inquiry process, demonstrate knowledge of the composition, structures, processes and interactions of Earth's systems and other objects in space.	Standard 5 Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.	Standard 6 Students understand historical developments in science and technology.
	Standard 1 Students access, synthesize, and evaluate information to communicate and apply social studies knowledge to real world situations.	Standard 2 Students analyze how people create and change structures of power, authority and governance to understand the operation of government and to demonstrate civic responsibility.	Standard 3 Students apply geographic knowledge and skills (e.g., location, place, human/environment interactions, movement, and regions).	Standard 4 Students demonstrate an understanding of the effects of time, continuity, and change on historical perspectives and relationships.	Standard 5 Students make informed decisions based on an understanding of the economic principles of production, distribution, exchange, and consumption.	Standard 6 Students demonstrate an understanding of the impact of human interaction and cultural diversity on societies.
Social Studies	Standard 1 A student must use digital tools and resources for problem solving and decision making.	Standard 2 A student must collaborate and communicate globally in a digital environment.	Standard 3 A student must apply digital tools and skills with creativity and innovation to express him/herself, construct knowledge, and develop products and processes.	Standard 4 A student must possess a functional understanding of technology concepts and operations.		
	Standard 1 A student must use digital tools and resources for problem solving and decision making.	Standard 2 A student must collaborate and communicate globally in a digital environment.	Standard 3 A student must apply digital tools and skills with creativity and innovation to express him/herself, construct knowledge, and develop products and processes.	Standard 4 A student must possess a functional understanding of technology concepts and operations.		
Technology	Standard 1 A student must use digital tools and resources for problem solving and decision making.	Standard 2 A student must collaborate and communicate globally in a digital environment.	Standard 3 A student must apply digital tools and skills with creativity and innovation to express him/herself, construct knowledge, and develop products and processes.	Standard 4 A student must possess a functional understanding of technology concepts and operations.		
	Standard 1 A student must use digital tools and resources for problem solving and decision making.	Standard 2 A student must collaborate and communicate globally in a digital environment.	Standard 3 A student must apply digital tools and skills with creativity and innovation to express him/herself, construct knowledge, and develop products and processes.	Standard 4 A student must possess a functional understanding of technology concepts and operations.		

MONTANA CONTENT STANDARDS AT-A-GLANCE

Workplace Competencies	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5	Standard 6
	Workplace Resources: Students identify, organize, plan, and allocate workplace resources of time, money, materials, facilities, and human resources.	Interpersonal Workplace Skills: Students acquire and demonstrate interpersonal workplace skills.	Workplace Information: Students acquire and use workplace information.	Workplace Systems: Students demonstrate an understanding of how social, organizational, and technological systems work.	Workplace Technology: Students work safely with a variety of workplace technologies.	Workplace Readiness/Life and Career Planning: Students acquire and demonstrate skills in life and career planning and workplace readiness.
World Languages	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5	Standard 6
	Students engage in conversation, provide and obtain information, express feelings and emotions, and exchange opinions.	Students understand and interpret spoken and/or written language on a variety of topics.	Students convey information, concepts, and ideas to listeners and/or readers for a variety of purposes.	Students demonstrate an understanding of the relationship between the perspectives, practices, and products/contributions of cultures studied, and use this knowledge to interact effectively in cultural contexts.	Students reinforce and increase his/her knowledge of other disciplines through world languages.	Students acquire information and perspectives through authentic materials in world languages and within cultures.
	Standard 7	Standard 8	Standard 9	Standard 10	Standard 11	Standard 12
	Students recognize that different languages use different patterns and can apply this knowledge to his/her own language.	Students demonstrate an understanding of the concept of culture through comparisons of the culture studied and his/her own.	Students apply language skills and cultural knowledge in daily life.			

Montana K-12 Science Content Standards Framework



opi.mt.gov

Adopted by the Montana Board of Public Education
November 2006

This publication is in the public domain. Authorization to reproduce it in whole or in part is granted. While permission to reprint this publication is not necessary, the citation should be: Montana Office of Public Instruction. Accreditation Division, Curriculum and Instruction Unit. *Science Content Standards Framework*. Helena, MT, 2010.


 Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov	Montana K-12 Science Content Standards Framework
---	---

Table of Contents

Introduction	pg 4
Preface to Science Content Standards	pg 6
Science Content Standard 1 (ARM 10.54.5010-5013).....	pg 7
Science Content Standard 2 (ARM 10.54.5020-5023).....	pg 9
Science Content Standard 3 (ARM 10.54.5030-5033).....	pg 11
Science Content Standard 4 (ARM 10.54.5040-5043).....	pg 13
Science Content Standard 5 (ARM 10.54.5050-5053).....	pg 15
Science Content Standard 6 (ARM 10.54.5060-5063).....	pg 16
Performance Descriptors “A Profile of Four Levels”	pg 17
Performance Descriptors, End of Grade 4 (ARM 10.54.5087-5090).....	pg 17
Performance Descriptors, End of Grade 8 (ARM 10.54.5091-5094).....	pg 19
Performance Descriptors, Upon Graduation (ARM 10.54.5095-5098).....	pg 21
Glossary.....	pg 24
Works Cited	pg 27

Introduction

In 2005 the Montana Board of Public Education initiated the Standards Revision Project to assure Montana citizens that its public schools are providing **all** children of our great state with challenging academic expectations. The Montana Board of Public Education is charged with the responsibility of leading a process of standards revision that meets the following guiding principles.

Revised learning standards which are academic in focus, rigorous but attainable, readily understandable, and designed to measure the progress of students toward meeting them, will lead to the improvement of Montana's schools and a brighter future for our people.

Revised standards must clearly and consistently identify what students should know, understand and be able to do. Parents, educators, and the greater Montana community must be involved in the revision process. Revised standards will provide a framework to help guide local curriculum and instruction, encouraging school districts and teachers to place emphasis on critical areas of learning. In addition, standards should be measured and made known to the Montana public.

With the vital purpose of improving Montana's schools as our goal, the Montana Board of Public Education sets forth the following criteria to guide the Standards Revision:

1. Standards will be academic in nature and content specific.
2. Standards will be challenging and rigorous.
3. Standards will be clear, understandable and free of jargon.
4. Standards will be measurable.
5. Standards will address diversity specifically fulfilling the commitment to implementing MCA 20-1-501, Indian Education for All.

With the purpose of developing a successful and useful product, the Montana Board of Public Education sets forth the following process to guide the Montana Standards Revision:

1. Use the existing Montana Standards Framework - current accreditation program delivery and foundation standards, content and performance standards and benchmarks, and existing structure (4th, 8th, and upon graduation);
2. Use proven practices from Montana classrooms;
3. Consider international, national and other states' standards;
4. Consider entrance expectations for workplace and postsecondary education;
5. Consider achievement and other related data;
6. Consider other research e.g., Education Northwest, School Redesign Network, National Study of School Evaluation, etc.;
7. Consider comments from professional education associations;
8. Consider comments from tribal and school district educators;
9. Consider recommendations from the Montana Advisory Council for Indian Education; and
10. Involve the Montana public.

Pursuant to Article X Sect 1(2) of the Constitution of the state of Montana and statutes §20-1-501 and §20-9-309 2(c) MCA, the implementation of these standards must incorporate the distinct and unique cultural heritage of Montana American Indians.

Components of the Science Content Standards Framework

The Science Content Standards Framework is a set of agreements, rationales, and rules that provides the foundation for standards-based science education in Montana. This framework is the blueprint for further development of key components, such as Essential Learning Expectations, Performance Rubrics, and curriculum. The content standards framework contains:

- K-12 content standards;
- rationale for each content standard;
- benchmarks at the end of grade 4, end of grade 8, and upon graduation;
- performance descriptors at the levels of novice, nearing proficiency, proficient and advanced;
- a glossary; and
- works cited.


In order to use this framework effectively, it is essential to understand the distinctions between and intended purpose of its various components.

Content Standards: The six science content standards indicate what all students should know, understand, and be able to do in science. Their purpose is to guide the science curriculum and to communicate the breadth of the science to be taught to all students. A district's curriculum should be designed so that learning encompasses all six standards.

Rationales: Outlines the fundamental reasons for each of the content standards and provides the basis for the knowledge and skills included in the benchmarks.

Benchmarks: The benchmarks define expectations for students' scientific knowledge and skills along a developmental continuum. They define expectations for proficient students at the end of grade 4, end of grade 8, and upon graduation. Their purpose is to state clearly and specifically what the students should know and be able to do within each content standard. A district's curriculum should include the entire progression of knowledge contained in the benchmarks.

Performance Descriptors: Performance descriptors define how well students apply the knowledge and skills they have acquired. They gauge the level to which benchmarks have been attained in terms of range, frequency, facility, depth, creativity and quality. Achievement of curricular goals is assessed by the performance descriptors.

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	<p>Preface to Science Content Standards</p>
---	--

Science is an inquiry process used to investigate natural phenomena, resulting in the formation of theories verified by directed observations. Inquiry challenges students to solve problems by observing and collecting data and constructing inferences from those data. In doing so, students acquire knowledge and develop a rich understanding of concepts, principles, models, and theories (National Research Council, *National Science Education Standards* 214). Inquiry requires the use of scientific thinking skills to address open-ended problems through non-prescriptive procedures and allows students to construct their own knowledge of the specific concepts. This validates different ways of gathering, synthesizing and communicating knowledge. Scientific theories are challengeable and changeable. Data used to support or contradict them must be reproducible.

A goal of science education “. . . is to help students recognize the difference between personal opinion and knowledge gained through scientific investigation and debate” (*Science Framework for the 2005 National Assessment of Educational Progress* 8). “Inquiry is a multifaceted activity that involves making observations; posing questions; examining books and other sources of information to see what is already known; planning investigations; reviewing what is already known in light of experimental evidence; using tools to gather, analyze, and interpret data; proposing answers, explanations, and predictions; and communicating the results. Inquiry requires identification of assumptions, use of critical and logical thinking, and consideration of alternative explanations. Students will engage in selected aspects of inquiry as they learn the scientific way of knowing the natural world, but they also should develop the capacity to conduct complete inquiries” (National Research Council, *National Science Education Standards* 23).

Although science as a body of knowledge is ever changing, the processes of science are constant. In scientific inquiry, a problem is identified, pertinent data is gathered, hypotheses are formulated, experiments are performed, the results are interpreted, and conclusions are drawn. Science education strengthens students’ investigative skills and fosters their understanding of the world. Students acquire and apply critical thinking and problem-solving skills necessary to participate as citizens in dynamic, global technological societies. Thinking skills, for example, observing, measuring, classifying, predicting, deducing, and inferring are given meaning by the context of the subject matter being studied (*Science Framework for the 2005 National Assessment of Educational Progress* 8).

The unifying concepts and processes of science provide connections between and among traditional scientific disciplines. The unifying concepts and processes woven into the Montana Standards for Science include: systems, order, and organization; evidence, models and explanation; constancy, change, and measurement; evolution and equilibrium; and form and function. These concepts and processes must be experienced in a developmentally appropriate manner during K-12 science education.

Science Content Standard 1

Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate the results and form reasonable conclusions of scientific investigations.

Rationale

Students must understand the process of science—how information is gathered, evaluated and communicated to others. Learning by inquiry mirrors the process of science itself. The knowledge and skills related to scientific inquiry enable students to understand how science works. Inquiry allows students to construct an understanding of scientific facts, principles, concepts and applications. In addition, scientific inquiry stimulates student interest, motivation and creativity.

Safety is a fundamental concern in all experimental science. Appropriate safety procedures must be applied when storing, using, and caring for materials.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
1.1 develop the abilities necessary to safely conduct scientific inquiry, including (a step-by-step sequence is not implied): (a) asking questions about objects, events, and organisms in the environment, (b) planning and conducting simple investigations	1.1 identify a question, determine relevant variables and a control, formulate a testable hypothesis, plan and predict the outcome of an investigation, safely conduct scientific investigation, and compare and analyze data	1.1 generate a question, identify dependent and independent variables, formulate testable, multiple hypotheses, plan an investigation, predict its outcome, safely conduct the scientific investigations, and collect and analyze data
1.2 select and use appropriate tools including technology to make measurements (including metric units) and represent results of basic scientific investigations	1.2 select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations	1.2 select and use appropriate tools including technology to make measurements (in metric units), gather, process and analyze data from scientific investigations using appropriate mathematical analysis, error analysis, and graphical representation

Science Content Standard 1

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
1.3 use data to describe and communicate the results of scientific investigations	1.3 review, communicate and defend results of investigations, including considering alternative explanations	1.3 review evidence, communicate and defend results, and recognize that the results of a scientific investigation are always open to revision by further investigations. (e.g., through graphical representation or charts)
1.4 use models that illustrate simple concepts and compare those models to the actual phenomenon	1.4 create models to illustrate scientific concepts and use the model to predict change (e.g., computer simulation, stream table, graphic representation)	1.4 analyze observations and explain with scientific understanding to develop a plausible model (e.g., atom, expanding universe)
1.5 identify a valid test in an investigation	1.5 identify strengths and weakness in an investigation design	1.5 identify strengths, weaknesses, and assess the validity of the experimental design of an investigation through analysis and evaluation
1.6 identify how observations of nature form an essential base of knowledge among the Montana American Indians	1.6 compare how observations of nature form an essential base of knowledge among the Montana American Indians	1.6 explain how observations of nature form an essential base of knowledge among the Montana American Indians

Science Content Standard 2

Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.

Rationale

Matter exists in a variety of forms. All physical interactions involve changes in energy. Therefore, knowledge of matter and energy is essential to interpreting, explaining, predicting, and influencing change in our world.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
2.1 create mixtures and separate them based on different physical properties (e.g., salt and sand, iron filings and soil, oil and water)	2.1 classify, describe, and manipulate the physical models of matter in terms of: elements, and compounds, pure substances and mixtures, atoms, and molecules	2.1 describe the structure of atoms, including knowledge of (a) subatomic particles and their relative masses, charges, and locations within the atom, (b) the electrical and nuclear forces that hold the atom together, (c) fission and fusion, and (d) radioactive decay
2.2 examine, measure, describe, compare and classify objects in terms of common physical properties	2.2 examine, describe, compare and classify objects and substances based on common physical properties and simple chemical properties	2.2 explain how the particulate-level structure and properties of matter affect its macroscopic properties, including the effect of (a) valence electrons on the chemical properties of elements and the resulting periodic trends in these properties, (b) chemical bonding, (c) molecular geometry and intermolecular forces, (d) kinetic molecular theory on phases of matter, and (e) carbon-carbon atom bonding on biomolecules

Science Content Standard 2

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
2.3 identify the basic characteristics of light, heat, motion, magnetism, electricity and sound	2.3 describe energy and compare and contrast the energy transformations and the characteristics of light, heat, motion, magnetism, electricity, sound and mechanical waves	2.3 describe the major features associated with chemical reactions, including (a) giving examples of reactions important to industry and living organisms, (b) energy changes associated with chemical changes, (c) classes of chemical reactions, (d) rates of reactions, and (e) the role of catalysts
2.4 model and explain that matter exists as solids, liquids, and gases and can change from one form to another	2.4 model and explain the states of matter are dependent upon the quantity of energy present in the system and describe what will change and what will remain unchanged at the particulate level when matter experiences an external force or energy change	2.4 identify, measure, calculate, and analyze relationships associated with matter and energy transfer or transformations, and the associated conservation of mass
2.5 identify that the position of an object can be described by its location relative to another object and its motions described, and measured by external forces acting upon it	2.5 describe and explain the motion of an object in terms of its position, direction, and speed as well as the forces acting upon it	2.5 explain the interactions between motions and forces, including (a) the laws of motion and (b) an understanding of the gravitational and electromagnetic forces
2.6 identify, build, and describe mechanical systems and the forces acting within those systems	2.6 identify, build, describe, measure, and analyze mechanical systems (e.g., simple and complex compound machines) and describe the forces acting within those systems	2.6 explain how energy is stored, transferred, and transformed, including (a) the conservation of energy, (b) kinetic and potential energy and energy contained by a field, (c) heat energy and atomic and molecular motion, and (d) energy tends to change from concentrated to diffuse
2.7 observe, measure and manipulate forms of energy: sound, light, heat, electrical, magnetic	2.7 give examples and describe how energy is transferred and conserved (e.g.; electric to light and heat [light bulb], chemical to mechanical [fuel to propulsion])	2.7 describe how energy and matter interact, including (a) waves, (b) the electromagnetic spectrum, (c) quantization of energy, and (d) insulators and conductors

Science Content Standard 3

Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.

Rationale

Students gain a better understanding of the world around them if they study a variety of organisms, both microscopic and macroscopic. Through the study of similarities and differences of organisms, students learn the importance of classification and the diversity of living organisms. The understanding of diversity helps students understand biological evolution and life's natural processes (e.g., cycles, growth, and reproduction). Structure, function, body organization, growth and development, health and disease are important aspects to the study of life. The study of living systems provides students important information about how humans critically impact Earth's biomes.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
3.1 identify that plants and animals have structures and systems that serve different functions for growth, survival, and reproduction	3.1 compare the structure and function of prokaryotic cells (bacteria) and eukaryotic cells (plant, animal, etc.) including the levels of organization of the structure and function, particularly with humans	3.1 investigate and use appropriate technology to demonstrate that cells have common features including differences that determine function and that they are composed of common building blocks (e.g., proteins, carbohydrates, nucleic acids, lipids)
3.2 identify, measure, and describe basic requirements of energy and nutritional needs for an organism.	3.2 explain how organisms and systems of organisms obtain and use energy resources to maintain stable conditions (e.g., food webs, photosynthesis, respiration)	3.2 describe and explain the complex processes involved in energy use in cell maintenance, growth, repair and development
3.3 describe and use models that trace the life cycles of different plants and animals and discuss how they differ from species to species	3.3 communicate the differences in the reproductive processes of a variety of plants and animals using the principles of genetic modeling (e.g., Punnett squares)	3.3 model the structure of DNA and protein synthesis, discuss the molecular basis of heredity, and explain how it contributes to the diversity of life

Science Content Standard 3

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
3.4 explain cause and effect relationships between nonliving and living components within ecosystems; and explain individual response to the changes in the environment including identifying differences between inherited, instinctual, and learned behaviors	3.4 investigate and explain the interdependent nature of populations and communities in the environment and describe how species in these populations adapt by evolving	3.4 predict and model the interaction of biotic and abiotic factors that affect populations through natural selection, and explain how this contributes to the evolution of species over time
3.5 create and use a classification system to group a variety of plants and animals according to their similarities and differences	3.5 create and use a basic classification scheme to identify plants and animals	3.5 generate and apply biological classification schemes to infer and discuss the degree of divergence between ecosystems

Science Content Standard 4

Students, through the inquiry process, demonstrate knowledge of the composition, structures, processes and interactions of Earth's systems and other objects in space.

Rationale

By studying Earth, its composition, history and the processes that shape it, students gain a better understanding of the planet on which they live. Changes in lithosphere, atmosphere, and hydrosphere have profound effects on human existence. Knowledge of the Solar System and the universe helps students make predictions about Earth and informed decisions about the future.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
4.1 describe and give examples of Earth's changing features	4.1 model and explain the internal structure of the Earth and describe the formation and composition of Earth's external features in terms of the rock cycle and plate tectonics and constructive and destructive forces	4.1 understand the theory of plate tectonics and how it explains the inter-relationship between earthquakes, volcanoes, and sea floor spreading
4.2 describe and measure the physical properties of Earth's basic materials (including soil, rocks, water and gases) and the resources they provide	4.2 differentiate between rock types and mineral types and classify both by how they are formed and the utilization by humans	4.2 identify and classify rocks and minerals based on physical and chemical properties and the utilization by humans (e.g., natural resources, building materials)
4.3 investigate fossils and make inferences about life, the plants, animals, and the environment at that time	4.3 use fossils to describe the geological timeline	4.3 explain scientific theories about how fossils are used as evidence of changes over time
4.4 observe and describe the water cycle and the local weather and demonstrate how weather conditions are measured	4.4 describe the water cycle, the composition and structure of the atmosphere, and the impact of oceans on large-scale weather patterns	4.4 collect and analyze local and regional weather data to make inferences and predictions about weather patterns; explain factors influencing global weather and climate; and describe the impact on Earth of fluctuations in weather and climate (e.g., drought, surface and ground water, glacial instability)

Science Content Standard 4

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
4.5 identify seasons and explain the difference between weather and climate	4.5 describe and model the motion and tilt of Earth in relation to the sun, and explain the concepts of day, night, seasons, year, and climatic changes	4.5 explain the impact of terrestrial, solar, oceanic, and atmosphere conditions on global climatic patterns
4.6 identify objects (e.g., moon, stars, meteors) in the sky and their patterns of movement and explain that light and heat comes from a star called the sun	4.6 describe the Earth, moon, planets and other objects in space in terms of size, force of gravity, structure, and movement in relation to the sun	4.6 describe the origin, location, and evolution of stars and their planetary systems in respect to the solar system, the milky way, the local galactic group, and the universe
4.7 identify technology and methods used for space exploration (e.g., star parties, space shuttles, telescopes)	4.7 identify scientific theories about the origin and evolution of the Earth and the solar system	4.7 relate how evidence from advanced technology applied to scientific investigations (e.g., large telescopes and space-borne observatories), has dramatically impacted our understanding of the origin, size, and evolution of the universe

Science Content Standard 5

Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.

Rationale

Our world and human activity is shaped in many ways by the advances in science. Science and technology are parallel in that science drives technological advances and these advances drive future scientific endeavors. Many different cultures contribute to science and technology. These advances affect different societies in different ways. It is vital that students understand the interrelationships of science, technology and human activity.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
5.1 describe and discuss examples of how people use science and technology	5.1 describe the specific fields of science and technology as they relate to occupations within those fields	5.1 predict how key factors (e.g., technology, competitiveness, and world events) affect the development and acceptance of scientific thought
5.2 describe a scientific or technological innovation that impacts communities, cultures, and societies	5.2 apply scientific knowledge and process skills to understand issues and everyday events	5.2 give examples of scientific innovation challenging commonly held perceptions
5.3 simulate scientific collaboration by sharing and communicating ideas to identify and describe problems	5.3 simulate collaborative problem solving and give examples of how scientific knowledge and technology are shared with other scientists and the public	5.3 evaluate the ongoing, collaborative scientific process by gathering and critiquing information
5.4 use scientific knowledge to make inferences and propose solutions for simple environmental problems	5.4 use scientific knowledge to investigate problems and their proposed solutions and evaluate those solutions while considering environmental impacts	5.4 analyze benefits, limitations, costs, consequences, and ethics involved in using scientific and technological innovations (e.g., biotechnology, environmental issues)
5.5 identify how the knowledge of science and technology influences the development of the Montana American Indian cultures	5.5 describe how the knowledge of science and technology influences the development of the Montana American Indian cultures	5.5 explain how the knowledge of science and technology applies to contemporary Montana American Indian communities (e.g., natural resources development, management and conservation)

Science Content Standard 6

Students understand historical developments in science and technology.

Rationale


Students need to understand that scientific knowledge was influenced greatly by societal influences. They also need to know that scientific and technological advances have influenced society. For instance, the development of the atom bomb and the discovery that microbes cause disease both had a major impact on society. Therefore, the use of history in school science programs is necessary to clarify different aspects of scientific discovery, to understand that scientific knowledge is publicly shared and to understand the role that science has played in the development of various cultures.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
6.1 give historical examples of scientific and technological contributions to communities, cultures and societies, including Montana American Indian examples	6.1 give examples of scientific discoveries and describe the interrelationship between technological advances and scientific understanding, including Montana American Indian examples	6.1 analyze and illustrate the historical impact of scientific and technological advances, including Montana American Indian examples
6.2 describe how scientific inquiry has produced much knowledge about the world and a variety of contributions toward understanding events and phenomenon within the universe	6.2 identify major milestones in science that have impacted science, technology, and society	6.2 trace developments that demonstrate scientific knowledge is subject to change as new evidence becomes available
6.3 describe science as a human endeavor and an ongoing process	6.3 describe and explain science as a human endeavor and an ongoing process	6.3 describe, explain, and analyze science as a human endeavor and an ongoing process

Montana K-12 Science Content Standards Framework

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent</p> <p>opi.mt.gov</p>	<p>Montana K-12 Science Performance Descriptors A Profile of Four Levels</p>
---	---

The Science Performance Descriptors define how well students perform at four performance levels: advanced, proficient, nearing proficiency, and novice. These profiles describe students as they apply the knowledge and skills defined in the benchmarks for the End of Grade 4, End of Grade 8, and Upon Graduation.

Advanced	Proficient	Nearing Proficiency	Novice
A student at the advanced level demonstrates superior performance. He/she:	A student at the proficient level demonstrates solid academic performance. He/she:	A student at the nearing proficiency level demonstrates partial mastery of the prerequisite knowledge and skills fundamental for proficiency. He/she:	A student at the novice level is beginning to attain the prerequisite knowledge and skills that are fundamental for proficiency. He/she:

End of Grade 4			
Advanced	Proficient	Nearing Proficiency	Novice
safely completes a simple investigation by asking questions, using appropriate tools and with identified variables, identifies relationships and communicates results, and identifies that observation is a key inquiry process used by Montana American Indians	with direction, safely completes a simple investigation by asking questions with identified variables, uses appropriate tools, communicates results, and identifies that observation is a key inquiry process used by Montana American Indians	identifies and describes a simple investigation, and with step-by-step direction, given the appropriate tools, identifies and describes a simple safe investigation, and identifies that observation is a key inquiry process used by Montana American Indians	with direction, identifies and describes a safe, simple investigation with identified variables, and identifies that observation is a key inquiry process used by Montana American Indians
selects and accurately uses tools for measurement of solids, liquids, and gases, identifying properties of each state of matter, and describes and models characteristics of and changes within physical and mechanical systems	selects and uses tools for simple measurement of solids, liquids, and gases, identifying properties of each state of matter, and describes and models characteristics of and changes within basic physical and mechanical systems	with direction, effectively uses tools for simple measurement of solids, liquids, and gases, naming some properties of each state of matter, and names components of basic physical and mechanical systems	with direction, identifies and uses tools for simple measurement of solids, liquids, and gases; with direction, identifies basic components of basic physical and mechanical systems

Montana K-12 Science Content Standards Framework

End of Grade 4 (cont.)			
Advanced	Proficient	Nearing Proficiency	Novice
identifies multiple attributes of biotic (living) and abiotic (nonliving) objects, including: classification based on similarities and differences; describes and models structures, functions, and processes of biotic (living) and abiotic (nonliving) systems	identifies attributes of biotic (living) things and abiotic (nonliving) objects, including: classification based on similarities and differences, basic structure and function, processes of each system	with direction, identifies some of biotic (living) and abiotic (nonliving) objects; groups objects based on common attributes; provides basic descriptions of structure, function, and processes of a system	with direction, identifies basic attributes of biotic (living) and abiotic (nonliving) objects; groups objects based on common attributes
describes and explains the details of Earth's physical features and cycles	identifies and accurately illustrates Earth's features, locating several observable changes of those features	with direction, identifies some and describes Earth's features and recognizes simple, observable changes of those features	with direction, identifies basic Earth's features and identifies fundamental changes of those features
discusses interactions among technology, science, and society	identifies interactions among technology, science, and society	with direction, identifies some interactions among technology, science and society	with direction, identifies how basic scientific inquiry can blend current events and local issues
independently identifies scientific information in the news and discusses the possible impact on local problems	discusses scientific information related to current events and local problems	with direction, discusses how science plays a role in current events and local problems	with direction, identifies how science plays a role in current events and local problems
identifies the historical significance of scientists, discusses the impacts of their discoveries on humans today, and identifies influences of science and technology on the development of Montana American Indian cultures	identifies the historical significance of scientists, identifies the impacts of their discoveries on humans today, and identifies influences of science and technology on the development of Montana American Indian cultures	with direction, identifies some of the historical significance of scientists; identifies the impacts of their discoveries on humans today; and identifies influences of science and technology on the development of Montana American Indian cultures	with direction, identifies the basic historical significance of a prominent scientist; identifies the impact of his or her discoveries on humans today; and identifies influences of science and technology on the development of Montana American Indian cultures
identifies examples of Montana American Indian contributions to scientific and technological knowledge	identifies examples of Montana American Indian contributions to scientific and technological knowledge	with direction, identifies some examples of Montana American Indian contributions to scientific and technological knowledge	with direction, identifies an example of Montana American Indian contribution to scientific and technological knowledge

Montana K-12 Science Content Standards Framework

End of Grade 8			
Advanced	Proficient	Nearing Proficiency	Novice
generates testable questions, safely constructs a plan for a controlled investigation, makes logical inferences based on observations, accurately interprets data by identifying the strengths and weaknesses in an investigation design, communicates results, and communicates that observation is a key inquiry process used by Montana American Indians	identifies and communicates testable questions, safely plans and conducts experimental investigations, communicates results, and communicates that observation is a key inquiry process used by Montana American Indians	with step-by-step direction identifies and communicates testable questions, safely plans a controlled investigation, making simple inferences based on observations and interpretation of data, and communicates that observation is a key inquiry process used by Montana American Indians	identifies and describes a testable question, plans for a safely controlled investigation, makes simple observations, and communicates that observation is a key inquiry process used by Montana American Indians
uses physical, mental, theoretical, and mathematical models to investigate individually generated problems and/or questions about physical and chemical phenomena	given supporting detail, describes the physical world through the application of simple chemical reactions, chemical formulas, physical, theoretical and mathematical models	gives explanations describing the physical world; through the use of simple chemical reactions, chemical formulas and physical laws, and physical models	with direction describes the physical world; identifies simple chemical reactions, chemical formulas, and demonstrates a limited understanding of physical models
organizes, classifies, and describes interactions of the biotic (living) and abiotic (nonliving) parts of the biosphere as well as the natural history of interactions of life on Earth and uses these skills to solve related novel (to the student) problems	identifies and classifies biotic (living) things and abiotic (nonliving) objects through the application of common classification schemes; identifies the interdependence of life and the environment, and explains how characteristics of living things change because of the environment	describes interactions of the biotic (living) and abiotic (nonliving) parts of the biosphere; uses common classification schemes, lists examples of the interdependence of life and the environment	with direction, describes some basic interactions of the biotic (living) and abiotic (nonliving) parts of the biosphere; with direction provides basic descriptions of structure and function
describes, explains and models the processes that occur in the lithosphere, hydrosphere, and atmosphere of the Earth and the universe	describes and explains the structure and function of the Earth's lithosphere, hydrosphere, and atmosphere and the universe	describes the basic structure and function of the Earth's lithosphere, hydrosphere, and atmosphere and the universe	with direction, identifies and describes the basic structure and function of the Earth's lithosphere, hydrosphere, and atmosphere and the universe

Montana K-12 Science Content Standards Framework

End of Grade 8 (cont.)			
Advanced	Proficient	Nearing Proficiency	Novice
analyzes and communicates connections and interactions among technology, science, and society by applying scientific inquiry	describes connections and interactions among technology, science, and society by applying scientific inquiry	with direction, describes connections and interactions among technology, science, and society by applying scientific inquiry	with direction, identifies connections and interactions among technology, science, and society
makes informed decisions about scientific and social issues based on observations, data, analysis, and knowledge of the natural world, and effectively communicates those decisions to others	describes scientific information related to current events, and the impact on local problems	expresses how current events impact local problems and with prompting, can discuss scientific information that effects these problems	with direct instruction, can discuss basic scientific information in current events and how it impacts local problems
independently identifies and describes examples of how science and technology are the results of human activity throughout history, independently seeks new information that connects past to present, and describes influences of science and technology on Montana American Indian cultures	independently identifies and describes examples of how science and technology are the results of human activity throughout history, seeks new information that connects past to present, and describes influences of science and technology on Montana American Indian cultures	with direction, identifies and describes examples of how science and technology are the results of human activity throughout history; seeks new information that connects past to present; and describes influences of science and technology on Montana American Indian cultures	with direction, identifies and describes examples of how science and technology are the results of human activity throughout history; describes influences of science and technology on Montana American Indian cultures
describes and explains multiple examples of Montana American Indian contributions to scientific and technological knowledge	describes and explains multiple examples of Montana American Indian contributions to scientific and technological knowledge	with direction, describes examples of Montana American Indian contributions to scientific and technological knowledge	with direction, describes examples of Montana American Indian contributions to scientific and technological knowledge

Montana K-12 Science Content Standards Framework


Upon Graduation			
Advanced	Proficient	Nearing Proficiency	Novice
formulates testable questions, safely constructs a plan, makes logical inferences, interprets data by identifying the strengths and weaknesses, communicates results, presents another investigation that more accurately assesses the topic of study, and explains that observation is a key inquiry process used by Montana American Indians	generates testable questions, safely constructs a plan for a controlled investigation, makes logical inferences based on observations, accurately interprets data by identifying the strengths and weaknesses in an investigation design, communicates results, and describes and explains that observation is a key inquiry process used by Montana American Indians	with step-by-step direction, safely conducts and communicates the results from simple investigations, sometimes inferring real world applications and explains that observation is a key inquiry process used by Montana American Indians	identifies, describes, and safely conducts a simple investigation, identifies a variable and makes real world applications, and, with direction, explains that observation is a key inquiry process used by Montana American Indians
creates and uses physical, mental, theoretical, and mathematical models to investigate individually generated problems and/or questions about physical and chemical phenomena	uses physical, mental, theoretical, and mathematical models to investigate individually generated problems and/or questions about physical and chemical phenomena	identifies and constructs physical, mental, and mathematical models depicting the properties of matter in the physical world to investigate teacher-guided problems and/or questions about scientific phenomena	with direction, identifies and uses models depicting the properties of matter in the physical world
creates and uses physical, mental, theoretical, and mathematical models to investigate individually generated problems and/or questions about the biotic (living) and abiotic (nonliving) parts of the biosphere as well as the natural history of interactions of life on Earth and uses these skills to solve related novel (to the student) problems	organizes, classifies, and describes interactions of the biotic (living) and abiotic (nonliving) parts of the biosphere as well as the natural history of life on Earth and uses these skills to solve related novel (to the student) problems	uses models to investigate problems and/or questions about the biotic (living) and abiotic (nonliving) parts of the biosphere as well as the natural history of the interactions of life on earth	with direction, uses physical models to investigate problems and/or questions about the biotic (living) and abiotic (nonliving) parts of the biosphere and describes some factors which may cause the extinction of a species

Montana K-12 Science Content Standards Framework

Upon Graduation (cont.)			
Advanced	Proficient	Nearing Proficiency	Novice
creates and uses physical, mental, theoretical, and mathematical models to investigate individually generated problems and/or questions about the processes that occur in the lithosphere, hydrosphere, and atmosphere of the Earth and the universe	describes, explains and models the processes that occur in the lithosphere, hydrosphere, and atmosphere of the Earth and the universe	with direction, describes, explains, and models the processes that occur in the lithosphere, hydrosphere, and atmosphere of the Earth and the universe	with direction, describes and explains processes that occur in the lithosphere, hydrosphere, and atmosphere of the Earth and the universe
analyzes and evaluates connections and interactions among technology, science, and society by applying scientific inquiry	analyzes and communicates connections and interactions among technology, science, and society by applying scientific inquiry	identifies and describes connections and interactions among technology, science, and society by applying scientific inquiry	identifies connections and interactions among technology, science, and society by applying scientific inquiry
discriminately compares scientific and social issues based on observations, data, analysis, and knowledge of the natural world, and effectively communicates those decisions to others	makes informed decisions about scientific and social issues based on observations, data, analysis, and knowledge of the natural world and effectively communicates those decisions to others	using scientific inquiry, partially communicates interactions of science, technology, and society	identifies, but inconsistently communicates, interactions of science, technology, and their effect on society
identifies the positive and negative impacts of past, present, and future technological and scientific advances, gives possible solutions that may minimize the negative impacts on the global community, and describes and explains how science and technology apply to contemporary Montana American Indian communities	identifies the positive and negative impacts of past, present, and future technological and scientific advances, with direction, gives possible solutions that may minimize the negative impacts on the global community, and describes and explains how science and technology apply to contemporary Montana American Indian communities	identifies the positive and negative impacts of past, present, and future technological and scientific advances and describes how science and technology apply to contemporary Montana American Indian communities	with direction, identifies the positive and negative impacts of past, present, and future technological and scientific advances and, with direction, describes how science and technology apply to contemporary Montana American Indian communities

Montana K-12 Science Content Standards Framework

Upon Graduation (cont.)			
Advanced	Proficient	Nearing Proficiency	Novice
analyzes and explains Montana American Indian contributions to scientific and technological knowledge and analyzes and explains the historical impact of scientific and technological advances, including Montana American Indian examples	analyzes and explains Montana American Indian contributions to scientific and technological knowledge and analyzes and explains the historical impact of scientific and technological advances, including Montana American Indian examples	explains Montana American Indian contributions to scientific and technological knowledge and explains the historical impact of scientific and technological advances, including Montana American Indian examples	with direction, explains Montana American Indian contributions to scientific and technological knowledge and with direction describes the historical impact of scientific and technological advances, including Montana American Indian examples

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	Montana K-12 Science Content Standards Framework Glossary
---	--

The glossary identifies and describes key terms within the content standards, benchmarks, and performance descriptors. The purpose of the glossary is to help educators better understand and implement the mathematics content standards, benchmarks and performance descriptors. **It is not intended to be a study guide for students and is not a comprehensive list of all science terms.**

Attribute - An inherent characteristic.

Classification - Systematic arrangement of objects or organisms into groups or categories according to established criteria.

Control – A group of test subjects left untreated or unexposed to the independent variable and then compared with treated subjects in order to validate the test results; the standard for comparing experimental effects. Not all experiments have a control, though all have controlled variables (Cothorn, Giese, and Rezba 17).

Controlled Variable - A variable that is not changed and is kept the same for all tests; also referred to as a constant (Cothorn, Giese, and Rezba 17).

Data – Qualitative or quantitative values collected through observation or experimentation from which conclusions may be drawn.

Dependent Variable – The observed or measured variable in an experiment or study whose changes are determined by the presence or degree of one or more independent variables; also referred to as the responding variable.

Error Analysis – The process used to evaluate the total error throughout an experiment and indicate the accuracy of experimental results. This can be due to bias error, precision error, as well as others.

Evidence – Data and documentation that may either support or help refute inferences or conclusions.

Evolution – A process of change that explains why what is seen today is different from what existed in the past; it includes changes in the galaxies, stars, solar system, Earth and life on earth. Biological evolution is any genetic and resulting phenotypic change in groups of organisms from generation to generation.

Experiment – The act of conducting a controlled test or investigation.

Fossil – Any recognizable structure originating from an organism, or any impression from such a structure, that has been preserved over geological time.

Montana K-12 Science Content Standards Framework

Geologic Timeline - a chronologic schema used by geologists and other earth scientists to describe the timing and relationships between events that have occurred during the history of Earth.

Hypothesis - A tentative explanation of a phenomenon, event, or the nature of an object based on prior experience, scientific background knowledge, preliminary observations, and logic. A hypothesis is testable (Fundamentals of Inquiry).

Independent Variable – A factor or condition that changes naturally or is intentionally manipulated by the investigator to observe the effect; also referred to as the manipulated variable.

Inquiry – A search for knowledge; a systematic process of teaching and learning where the learner:

- engages in scientifically oriented questions;
- gives priority to evidence in responding to questions;
- formulates explanations from evidence;
- connects explanations to scientific knowledge; and
- communicates and justifies explanations.

(National Research Council 25-29).

Investigate - To observe or study by using a systematic inquiry approach.

Law - Summarizing statement of observed experimental facts that has been tested many times and is generally accepted as true.

Model - A description, analogy or a representation of something that helps us understand it better (e.g., a physical model, a conceptual model, a mathematical model).

Natural Phenomenon - An occurrence, circumstance, or fact that exists in or formed by nature and is perceptible by the senses.

Observation - To gather information and direct evidence about an object, event or phenomenon by using the senses and/or appropriate tools.

Planet - A celestial body that (a) is in orbit around the Sun, (b) has sufficient mass for its self-gravity to overcome rigid body forces so that it assumes a hydrostatic equilibrium (nearly round) shape, and (c) has cleared the neighborhood around its orbit (International Astronomical Union).

Plate Tectonics - Movements of the Earth's crustal plates, which result in changes in the position, size, and shape of continents and oceans (NASA Jet Propulsion Laboratory).

Prediction – A forecast of the outcome of a specific future event based on a pattern of evidence or a hypothesis (explanation). A predication based on a hypothesis can be used in planning a test of that hypothesis (Fundamentals of Inquiry).

Science - Systematic knowledge of the physical or material world gained through observation and experimentation.

Montana K-12 Science Content Standards Framework

Solar System - A system of planets, moons, asteroids, comets, dust, gas, and any other objects that orbit a star, tied to it by the star's gravitational force (NASA Space Place).

System - An organized group of related objects or components that form a whole.


Technology – 1. Human innovation in action that involves the generation of knowledge and processes to develop systems that solve problems and extend human capabilities; 2. The innovation, change, or modification of the natural environment to satisfy perceived human needs and wants (Massachusetts Science and Technology/Engineering).

Testable – A statement, question, or hypothesis that can be investigated through experimentation and/or observation.

Theory - Systematically organized knowledge applicable in a relatively wide variety of circumstances; especially, a system of assumptions, accepted principles and rules of procedure devised to analyze, predict or otherwise explain the nature or behavior of a specified set of phenomena ("Science Glossary").

Valid Test – Experimental design that consist of a change in one variable and a control group.

Variable - An attribute of a physical or an abstract system which may change its value while it is under observation.

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	<p>Montana K-12 Science Content Standard Framework Works Cited</p>
---	---

Cothron, Julia H, Ronald N Giese, and Richard J Rezba. *Students and Research: Practical Strategies for Science Classrooms and Competitions*. 1989. Dubuque, Iowa: Kendall/Hunt Publishing Company, 2000.

Fundamentals of Inquiry Facilitator's Guide: Workshop II Process Skills. San Francisco, California: Exploratorium, 2006. 3 Mar. 2009
<<http://www.exploratorium.edu/ifi/scripts/docdl.php?id=9&downloader=4901>>.

International Astronomical Union. 24 Aug. 2006. 26 Feb. 2009
<http://www.iau.org/public_press/news/release/iau0603/>.

Massachusetts Science and Technology/Engineering Curriculum Frameworks. Oct. 2006. Massachusetts Department of Education. 26 Feb. 2009_<<http://www.doe.mass.edu/frameworks/scitech/1006.pdf>>.

NASA Jet Propulsion Laboratory. NASA. 26 Feb. 2009
<<http://www2.jpl.nasa.gov/galileo/wedges/vocab.html>>.

NASA Space Place. 29 Jan. 2009. NASA. 26 Feb. 2009
<http://spaceplace.nasa.gov/en/kids/spitzer/signs/sign_glossary.shtml>.

National Resource Council. *Inquiry and the National Science Education Standards*. 2000. Washington, DC: National Academy Press, 2008.

"Science Glossary." *Pennsylvania Department of Education*. 26 Feb. 2009
<http://www.pde.state.pa.us/a_and_t/lib/a_and_t/Science_Glossary.doc>.


Montana K-12 Information Literacy/Library Media Content Standards Framework



opi.mt.gov

Adopted by the Montana Board of Public Education
July 2008

This publication is in the public domain. Authorization to reproduce it in whole or in part is granted. While permission to reprint this publication is not necessary, the citation should be: Montana Office of Public Instruction. Accreditation Division, Curriculum and Instruction Unit. *Information Literacy/Library Media Content Standards Framework*. Helena, MT, 2010.

 Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov	Montana K-12 Information Literacy/Library Media Content Standards Framework
---	--

Introduction	pg 4
Preface to the Information Literacy/Library Media Content Standards	pg 6
Information Literacy/Library Media Content Standard 1 (ARM 10.54.6510-6513)	pg 7
Information Literacy/Library Media Content Standard 2 (ARM 10.54.6520-6523)	pg 8
Information Literacy/Library Media Content Standard 3 (ARM 10.54.6530-6533)	pg 9
Information Literacy/Library Media Content Standard 4 (ARM 10.54.6540-6543)	pg 10
Information Literacy/Library Media Content Standard 5 (ARM 10.54.6550-6553)	pg 11
Performance Descriptors “A Profile of Four Levels” (ARM 10.54.6601-6660)	pg 12
Glossary	pg 22
Works Cited	pg 26

Introduction

In 2005 the Montana Board of Public Education initiated the Standards Revision Project to assure Montana citizens that its public schools are providing **all** children of our great state with challenging academic expectations. The Montana Board of Public Education is charged with the responsibility of leading a process of standards revision that meets the following guiding principles.

Revised learning standards which are academic in focus, rigorous but attainable, readily understandable, and designed to measure the progress of students toward meeting them, will lead to the improvement of Montana's schools and a brighter future for our people.

Revised standards must clearly and consistently identify what students should know, understand and be able to do. Parents, educators, and the greater Montana community must be involved in the revision process. Revised standards will provide a framework to help guide local curriculum and instruction, encouraging school districts and teachers to place emphasis on critical areas of learning. In addition, standards should be measured and made known to the Montana public.

With the vital purpose of improving Montana's schools as our goal, the Montana Board of Public Education sets forth the following criteria to guide Standards Revision:

1. Standards will be academic in nature and content specific.
2. Standards will be challenging and rigorous.
3. Standards will be clear, understandable and free of jargon.
4. Standards will be measurable.
5. Standards will address diversity specifically fulfilling the commitment to implementing MCA 20-1-501, Indian Education for All.

With the purpose of developing a successful and useful product, the Montana Board of Public Education sets forth the following process to guide the Montana Standards Revision:

1. Use the existing Montana Standards Framework--current accreditation program delivery and foundation standards, content and performance standards and benchmarks, and existing structure (4th, 8th, and upon graduation);
2. Use proven practices from Montana classrooms;
3. Consider international, national and other states' standards;
4. Consider entrance expectations for workplace and postsecondary education;
5. Consider achievement and other related data;
6. Consider other research e.g., Education Northwest, School Redesign Network, National Study of School Evaluation, etc.;
7. Consider comments from professional education associations;
8. Consider comments from tribal and school district educators;
9. Consider recommendations from Montana Advisory Council for Indian Education; and
10. Involve the Montana public.

Pursuant to Article X Sect 1(2) of the Constitution of the state of Montana and statutes §20-1-501 and §20-9-309 2(c) MCA, the implementation of these standards must incorporate the distinct and unique cultural heritage of Montana American Indians.

Components of the Information Literacy/Library Media Content Standards Framework

The Information Literacy/Library Media Content Standards Framework is a set of agreements, rationales, and rules that provides the foundation for standards-based education in Montana. This framework is the blueprint for further development of key components, such as Essential Learning Expectations, Performance Rubrics, and curriculum. The content standards framework contains:

- K-12 content standards,
- rationale for each content standard,
- benchmarks at end of grade 4, end of grade 8, and upon graduation,
- performance descriptors at the levels of novice, nearing proficiency, proficient and advanced,
- a glossary, and
- works cited.


In order to use this framework effectively, it is essential to understand the distinctions between and the intended purpose of its various components.

Content Standards: The five information literacy/library media content standards indicate what all students should know, understand, and be able to do. Their purpose is to guide the information literacy/library media curriculum and to communicate the breadth of the knowledge and skills to be taught to all students. A district's curriculum should be designed so that learning encompasses all five standards.

Rationales: Outlines the fundamental reasons for each of the content standards and provides the basis for the knowledge and skills included in the benchmarks.

Benchmarks: The benchmarks define expectations for students' knowledge and skills along a developmental continuum. They define expectations for proficient students at the end of grade 4, end of grade 8, and upon graduation. Their purpose is to state clearly and specifically what the students should know and be able to do within each content standard. A district's curriculum should include the entire progression of knowledge contained in the benchmarks.

Performance Descriptors: Performance descriptors define how well students apply the knowledge and skills they have acquired. They gauge the level to which benchmarks have been attained in terms of range, frequency, facility, depth, creativity and quality. Achievement of curricular goals is assessed by the performance descriptors.

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	<p>Preface to Information Literacy/Library Media Content Standards</p>
---	---

Information literacy is the ability to recognize when information is needed and then locate, evaluate, and effectively use the information. (Adapted from Association College and Research Libraries "Information Literacy Competency Standards for Higher Education")

All Montana students require equitable access to a variety of resources, encompassing the breadth of human conversations and creations for academic achievement and personal growth. By learning to access and evaluate information they gain an appreciation and respect for diverse ideas and creative expressions. By using information literacy skills in all aspects of learning, students become empowered and engaged lifelong learners. To thrive in the 21st Century, students must employ a process of inquiry that can be adapted to any information need. By learning strategies to manage and ethically use information, Montana students open the door to the world in all its diversity. Teacher librarians, in collaboration with other classroom and content area teachers, empower all students to become information literate.

Information Literacy/Library Media Content Standard 1

The student will identify the task and determine the resources needed.

Rationale

Students encounter "increasingly vast and complex collections of information" in today's world (Murray 1). Literacy implies more than vocabulary and awareness; it requires critical thinking (Murray 13). Students need skills to help them identify a task or problem and then determine which resources will best solve their specific academic and/or personal requirements. The Big6™ Model provides students with direction, purpose and strategies to initiate the process. Content Standard 1 addresses the first two steps in the Big6™ Model: Task Definition and Information Seeking Strategies.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
1.1 define the problem	1.1 analyze the parts of the problem to be solved	1.1 evaluate the purpose and scope of the problem
1.2 identify types of information needed	1.2 identify information resources needed	1.2 determine the nature and extent of information needed
1.3 choose from a range of resources	1.3 evaluate and select appropriate resources	1.3 evaluate and select appropriate resources

Information Literacy/Library Media Content Standard 2

The student will locate sources, use information, and present findings.

Rationale

Inquiry-based learning has progressed from traditional research to a problem solving process. Multiple literacies, including digital, visual, and textual have now joined information literacy as critical skills for the 21st Century. The amount and complexity of information necessitates that each individual acquire the skills to select, evaluate, and use information appropriately and effectively. The Big6™ Model provides students with direction, purpose and strategies to further the process. Content Standard 2 addresses steps 3, 4 and 5 in the Big6™ Model: Location and Access, Use of Information, and Synthesis.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
2.1 locate a resource needed to solve the problem	2.1 Locate multiple resources using search tools	2.1 locate multiple resources using a variety of search tools
2.2 evaluate resources	2.2 evaluate resources	2.2 evaluate resources
2.3 locate information within the resource	2.3 Locate information within multiple resources	2.3 locate information within a wide variety of resources
2.4 extract information from resources needed to solve the problem	2.4 Extract information from multiple resources needed to solve the problem	2.4 extract information from a wide variety of resources needed to solve the problem
2.5 organize information to solve the problem	2.5 organize and manage information to solve the problem	2.5 organize and manage information from a wide variety of sources to solve the problem
2.6 create a product that presents findings	2.6 create a product that presents findings	2.6 create and defend a product that presents findings

Information Literacy/Library Media Content Standard 3

The student will evaluate the product and learning process.

Rationale

"The final project is more than a goal; it is an opportunity to help students learn how to solve problems and make decisions by engaging higher level thinking skills in a systematic way" (Murray 89).

Students must be prepared to critically evaluate the results of their research, and then apply those results effectively in future learning and decision-making for personal growth and empowerment. This critical evaluation requires that students have frequent opportunities throughout the process to self-assess in order to revise strategies. Content Standard 3 addresses step 6 in the Big6™ Model: Evaluation.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
3.1 assess the quality of the product	3.1 assess the quality and effectiveness of the product	3.1 assess the quality and effectiveness of the product
3.2 describe the process	3.2 evaluate how the process met the need for information	3.2 evaluate the process in order to revise strategies

Information Literacy/Library Media Content Standard 4

The student will use information safely, ethically and legally.

Rationale

For students to contribute positively in a learning community, they must have equitable access to information in an environment that is safe and conducive to learning. Because learning has a social context, students need to develop skills in sharing knowledge with others, both in face-to-face situations and through digital environments. Students must recognize and respect the intellectual and creative property rights of others.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
4.1 legally obtain and use information	4.1 legally obtain, store and disseminate text, data, images or sounds	4.1 legally obtain, store and disseminate text, data, images or sounds
4.2 identify the owner of ideas and information	4.2 appropriately credit ideas and works of others	4.2 follow copyright laws and fair use guidelines when using the intellectual property of others
4.3 participate and collaborate in intellectual and social networks following safe and accepted practices	4.3 participate and collaborate in intellectual and social networks following safe and accepted practices	4.3 participate and collaborate in intellectual and social networks following safe and accepted practices

Information Literacy/Library Media Content Standard 5

The student will pursue personal interests through literature and other creative expressions.

Rationale


School libraries provide equitable access to literature and information resources that contribute to the development of lifelong learners. Central to learning is a respect and appreciation for the many voices and cultures in our world, including Montana American Indians. Students deserve the opportunity to explore creative expression, engage in independent learning, and read for personal enjoyment as well as fulfill academic tasks.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
5.1 use a variety of print and digital formats for pleasure and personal growth	5.1 use and respond to a variety of print and digital formats for pleasure and personal growth	5.1 use and critique a variety of print and digital formats for pleasure and personal growth
5.2 use a variety of genres for pleasure and personal growth	5.2 use and respond to a variety of genres for pleasure and personal growth	5.2 use and critique a variety of genres for pleasure and personal growth
5.3 access and understand multiple resources from diverse cultures, including Montana American Indians	5.3 analyze and respond to multiple resources and creative expressions from diverse cultures, including Montana American Indians	5.3 evaluate multiple resources and other creative expressions from diverse cultures, including Montana American Indians
5.4 access libraries to seek information for personal interest	5.4 access and use libraries and other information environments to find information for personal use and to make connections to resources beyond the school library	5.4 access and use resources and information from all types of information environments to pursue personal and creative interests

Montana K-12 Information Literacy/Library Media Content Standards Framework

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	<p>Montana K-12 Information Literacy/Library Media Performance Descriptors A Profile of Four Levels</p>
---	--

The Information Literacy/Library Media Performance Descriptors define how well students' perform at four performance levels: advanced, proficient, nearing proficiency, and novice. These profiles describe students as they apply the knowledge and skills defined in the benchmarks for End of Grade 4, End of Grade 8, and Upon Graduation.

Advanced	Proficient	Nearing Proficiency	Novice
<p>A student at the advanced level demonstrates superior performance. He/she:</p>	<p>A student at the proficient level demonstrates solid academic performance. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter. He/she:</p>	<p>A student at the nearing proficiency level demonstrates partial mastery of the prerequisite knowledge and skills fundamental for proficiency. He/she:</p>	<p>A student at the novice level is beginning to attain the prerequisite knowledge and skills that are fundamental for proficiency. He/she</p>

Information Literacy/Library Media Content Standard 1: End of Grade 4			
Advanced	Proficient	Nearing Proficiency	Novice
independently summarizes and restates the task or problem to be solved	summarizes and restates the task or problem to be solved	with guidance, summarizes and restates the task or problem to be solved	with assistance, restates the task or problem to be solved
independently brainstorms search terms to guide problem solving	brainstorms several search terms to guide problem solving	with guidance, brainstorms a few search terms to guide problem solving	with assistance, brainstorms a search term to guide problem solving
independently narrows or broadens a topic	narrows or broadens a topic	with guidance, narrows or broadens a topic	with assistance, narrows or broadens a topic
independently identifies possible resources	identifies possible resources	with guidance, identifies possible resources	with assistance, identifies possible resources
independently selects an appropriate resource to meet information need	selects an appropriate resource to meet information need	with guidance, selects appropriate resource to meet information need	with assistance, selects an appropriate resource to meet information need

Montana K-12 Information Literacy/Library Media Content Standards Framework

Information Literacy/Library Media Content Standard 1: End of Grade 8			
Advanced	Proficient	Nearing Proficiency	Novice
independently summarizes and restates the task or problem to be solved	summarizes and restates the task or problem to be solved	with guidance, summarizes and restates the task or problem to be solved	with assistance, restates the task or problem to be solved
independently breaks down the task into manageable parts	breaks down the task into manageable parts	with guidance, breaks down the task into manageable parts	with assistance, breaks down the task into manageable parts
independently brainstorms search terms to guide problem solving	brainstorms several search terms to guide problem solving	with guidance, brainstorms several search terms to guide problem solving	with assistance, brainstorms a search term to guide problem solving
independently narrows or broadens the topic to manageable focus	narrows or broadens the topic to manageable focus	with guidance, narrows or broadens the topic to manageable focus	with assistance, narrows or broadens the topic to manageable focus
independently identifies possible sources of information	identifies possible sources of information	with guidance, identifies possible sources of information	with assistance, identifies possible sources of information
independently compares resources needed	compares resources needed	with guidance, compares two or more resources needed	with assistance, compares two resources needed
independently decides which resources will be the most appropriate for the problem to be solved	decides which resources will be the most appropriate for the problem to be solved	with guidance, decides which resources will be the most appropriate for the problem to be solved	with assistance, decides which resources will be the most appropriate for the problem to be solved

Montana K-12 Information Literacy/Library Media Content Standards Framework

Information Literacy/Library Media Content Standard 1: Upon Graduation			
Advanced	Proficient	Nearing Proficiency	Novice
independently determines the parameters of the problem	determines the parameters of the problem	with guidance, determines the parameters of the problem	with assistance, determines the parameters of the problem
independently formulates questions to guide problem solving	formulates questions to guide problem solving	with guidance, formulates questions to guide problem solving	with assistance, formulates questions to guide problem solving
independently brainstorms search terms to guide problem solving	brainstorms search terms to guide problem solving	with guidance, brainstorms search terms to guide problem solving	with assistance, brainstorms search terms to guide problem solving
independently narrows or broadens the topic to manageable focus	narrows or broadens the topic to manageable focus	with guidance, narrows or broadens the topic to manageable focus	with assistance, narrows or broadens the topic to manageable focus
independently decides the types and the amount of information needed to solve the problem	decides the types and the amount of information needed to solve the problem	with guidance, decides the types and the amount of information needed to solve the problem	with assistance, decides the types and the amount of information needed to solve the problem
independently identifies possible resources	identifies possible resources	with guidance, identifies possible resources	with assistance, identifies possible resources
independently evaluates resources	evaluates resources	with guidance, evaluates resources	with assistance, evaluates resources
independently selects resources to solve the problem	selects resources to solve the problem	with guidance, selects resources to solve the problem	with assistance, selects resources to solve the problem

Montana K-12 Information Literacy/Library Media Content Standards Framework

Information Literacy/Library Media Content Standard 2: End of Grade 4			
Advanced	Proficient	Nearing Proficiency	Novice
independently locates resources to solve the problem	locates resources to solve the problem within a pre-selected range or collection of resources	with guidance, locates resources to solve the problem within a pre-selected range or collection of resources	with assistance, locates resources to solve the problem within a pre-selected range or collection of resources
independently locates information within resources	locates information within resources	with guidance, locates information within resources	with assistance, locates information within resources
independently identifies the point of view in information, including perspectives of Montana American Indians	identifies the point of view in information, including perspectives of Montana American Indians	with guidance, identifies the point of view in information, including perspectives of Montana American Indians	with assistance, identifies the point of view in information, including perspectives of Montana American Indians
independently reads, views, and listens to extract information from resources	reads, views, and listens to extract information from resources	with guidance, reads, views, and listens to extract information from resources	with assistance, reads, views, and listens to extract information from resources
independently organizes information for use	organizes information for use	with guidance, organizes information for use	with assistance, organizes information for use
independently creates a product that presents findings	creates a product that presents findings using established guidelines	with guidance, creates a product that presents findings using established guidelines	with assistance, creates a product that presents findings using established guidelines

Montana K-12 Information Literacy/Library Media Content Standards Framework

Information Literacy/Library Media Content Standard 2: End of Grade 8			
Advanced	Proficient	Nearing Proficiency	Novice
independently locates multiple resources using a variety of search tools	locates multiple resources using pre-selected search tools	with guidance, locates multiple resources using pre-selected search tools	with assistance, locates multiple resources using pre-selected search tools
independently evaluates authority, accuracy and currency of resources	evaluates authority, accuracy and currency of resources	with guidance, evaluates authority, accuracy and currency of resources	with assistance, evaluates authority, accuracy and currency of resources
independently locates information within resources	locates information within resources	with guidance, locates information within resources	with assistance, locates information within resources
independently reads, views, and listens to extract information from resources	reads, views, and listens to extract information from resources	with guidance, reads, views, and listens to extract information from resources	with assistance, reads, views, and listens to extract information from resources
independently identifies the point of view or bias in information, including perspectives of Montana American Indians	identifies the point of view or bias in information, including perspectives of Montana American Indians	with guidance, identifies the point of view or bias in information, including perspectives of Montana American Indians	with assistance, identifies the point of view in information, including perspectives of Montana American Indians
independently organizes information for use	organizes information for use	with guidance, organizes information for use	with assistance, organizes information for use
independently creates a product that presents findings	creates a product that presents findings	with guidance, creates a product that presents findings	with assistance, creates a product that presents findings

Montana K-12 Information Literacy/Library Media Content Standards Framework

Information Literacy/Library Media Content Standard 2: Upon Graduation			
Advanced	Proficient	Nearing Proficiency	Novice
independently locates a wide range of resources using a variety of search tools	locates a wide range of resources using a variety of search tools	with guidance, locates a wide range of resources using a variety of search tools	with assistance, locates a range of resources using search tools
independently evaluates authority, accuracy, relevance and currency of resources	evaluates authority, accuracy, relevance and currency of resources	with guidance, evaluates authority, accuracy, relevance and currency of resources	with assistance, evaluates authority, accuracy, relevance and currency of resources
independently locates information within a variety of resources	locates information within a variety of resources	with guidance, locates information within a variety of resources	with assistance, locates information within a variety of resources
independently reads, views and listens to extract information to solve the problem	reads, views and listens to extract information to solve the problem	with guidance, reads, views and listens to extract information	with assistance, reads, views and listens to extract information to solve the problem
independently identifies the origin, point of view or bias in information, including perspectives of Montana American Indians	identifies the origin, point of view or bias in information, including perspectives of Montana American Indians	with guidance, identifies the origin, point of view or bias in information, including perspectives of Montana American Indians	with assistance, identifies the origin, point of view or bias in information, including perspectives of Montana American Indians
independently organizes and manages a wide range of sources to draw conclusions to solve problems	organizes and manages a wide range of sources to draw conclusions to solve problems	with guidance, organizes and manages a wide range of sources to draw conclusions to solve problems	with assistance, organizes and manages a wide range of sources to draw conclusions to solve problems
independently creates, presents and defends a solution to the problem	creates, presents and defends a solution to the problem	with guidance, creates, presents and defends a solution to the problem	with assistance, creates, presents and defends a solution to the problem

Montana K-12 Information Literacy/Library Media Content Standards Framework

Information Literacy/Library Media Content Standard 3: End of Grade 4			
Advanced	Proficient	Nearing Proficiency	Novice
independently evaluates finished product according to criteria	evaluates finished product according to criteria	with guidance, evaluates finished product according to criteria	with assistance, evaluates finished product according to criteria
independently uses criteria to judge how well the steps of the problem solving process were followed	uses criteria to judge how well the steps of the problem solving process were followed	with guidance, uses criteria to judge how well the steps of the problem solving process were followed	with assistance, uses criteria to judge how well the steps of the problem solving process were followed

Information Literacy/Library Media Content Standard 3: End of Grade 8			
Advanced	Proficient	Nearing Proficiency	Novice
independently evaluates finished product according to criteria	evaluates finished product according to criteria	with guidance, evaluates finished product according to criteria	with assistance, evaluates finished product according to criteria
independently uses criteria to judge how well the steps of the problem solving process were followed	uses criteria to judge how well the steps of the problem solving process were followed	with guidance, uses criteria to judge how well the steps of the problem solving process were followed	with assistance, uses criteria to judge how well the steps of the problem solving process were followed
independently identifies improvements to the problem solving process	identifies improvements to the problem solving process	with guidance, identifies improvements to the problem solving process	with assistance, identifies improvements to the problem solving process

Information Literacy/Library Media Content Standard 3: Upon Graduation			
Advanced	Proficient	Nearing Proficiency	Novice
independently evaluates finished product according to criteria	evaluates finished product according to criteria	with guidance, evaluates finished product according to criteria	with assistance, evaluates finished product according to criteria
independently uses criteria to judge how well the steps of the problem solving process were followed	uses criteria to judge how well the steps of the problem solving process were followed	with guidance, uses criteria to judge how well the steps of the problem solving process were followed	with assistance, uses criteria to judge how well the steps of the problem solving process were followed
independently identifies improvements to the problem solving process	identifies improvements to the problem solving process	with guidance, identifies improvements to the problem solving process	with assistance, identifies improvements to the problem solving process
independently justifies decisions based on project criteria	justifies decisions based on project criteria	with guidance, justifies decisions based on project criteria	with assistance, justifies decisions based on project criteria

Montana K-12 Information Literacy/Library Media Content Standards Framework

Information Literacy/Library Media Content Standard 4: End of Grade 4			
Advanced	Proficient	Nearing Proficiency	Novice
independently follows copyright laws and fair use guidelines when using information	follows copyright laws and fair use guidelines when using information	with guidance, follows copyright laws and fair use guidelines when using information	with assistance, follows copyright laws and fair use guidelines when using information
independently credits ideas and works of others	credits ideas and works of others	with guidance, credits ideas and works of others	with assistance, credits ideas and works of others
independently practices safe, ethical and legal behavior in supervised intellectual and social networks	practices safe, ethical and legal behavior in supervised intellectual and social networks	with guidance, practices safe, ethical and legal behavior in supervised intellectual and social networks	with assistance, practices safe, ethical and legal behavior in supervised intellectual and social networks

Information Literacy/Library Media Content Standard 4: End of Grade 8			
Advanced	Proficient	Nearing Proficiency	Novice
independently follows copyright laws and fair use guidelines when obtaining, storing and disseminating text, data, images or sounds	follows copyright laws and fair use guidelines when obtaining, storing and disseminating text, data, images or sounds	with guidance, follows copyright laws and fair use guidelines when obtaining, storing and disseminating text, data, images or sounds	with assistance, follows copyright laws and fair use guidelines when obtaining, storing and disseminating text, data, images or sounds
independently and appropriately credits ideas and works of others	appropriately credits ideas and works of others	with guidance, appropriately credits ideas and works of others	with assistance, appropriately credits ideas and works of others
independently practices safe, ethical and legal behavior in intellectual and social networks	practices safe, ethical and legal behavior in intellectual and social networks	with guidance, practices safe, ethical and legal behavior in intellectual and social networks	with assistance, practices safe, ethical and legal behavior in intellectual and social networks

Information Literacy/Library Media Content Standard 4: Upon Graduation			
Advanced	Proficient	Nearing Proficiency	Novice
independently follows copyright laws and fair use guidelines when obtaining, storing and disseminating text, data, images or sounds	follows copyright laws and fair use guidelines when obtaining, storing and disseminating text, data, images or sounds	with guidance, follows copyright laws and fair use guidelines when obtaining, storing and disseminating text, data, images or sounds	with assistance, follows copyright laws and fair use guidelines when obtaining, storing and disseminating text, data, images or sounds
independently and appropriately credits ideas and works of others	appropriately credits ideas and works of others	with guidance, appropriately credits ideas and works of others	with assistance, appropriately credits ideas and works of others
independently practices safe, ethical and legal behavior in intellectual and social networks	practices safe, ethical and legal behavior in intellectual and social networks	with guidance, practices safe, ethical and legal behavior in intellectual and social networks	with assistance, practices safe, ethical and legal behavior in intellectual and social networks


Montana K-12 Information Literacy/Library Media Content Standards Framework

Information Literacy/Library Media Content Standard 5: End of Grade 4			
Advanced	Proficient	Nearing Proficiency	Novice
independently chooses resources based on personal interests	chooses resources based on personal interests	with guidance, chooses resources based on personal interests	with assistance, chooses resources based on personal interests
independently uses a variety of print and digital resources	uses a variety of print and digital resources	with guidance, uses some print and digital resources	with assistance, uses a few print and digital resources
independently explores a variety of genres	explores a variety of genres	with guidance, explores a variety of genres	with assistance, explores a variety of genres
independently explores multiple resources and other creative expressions from diverse cultures, including Montana American Indians	explores multiple resources and other creative expressions from diverse cultures, including Montana American Indians	with guidance, explores multiple resources and other creative expressions from diverse cultures, including Montana American Indians	with assistance, explores multiple resources and other creative expressions from diverse cultures, including Montana American Indians

Information Literacy/Library Media Content Standard 5: End of Grade 8			
Advanced	Proficient	Nearing Proficiency	Novice
independently chooses resources based on personal interests	chooses resources based on personal interests	with guidance, chooses resources based on personal interests	with assistance, chooses resources based on personal interests
independently uses and responds to a variety of print and digital resources	uses and responds to a variety of print and digital resources	with guidance, uses and responds to some print and digital resources	with assistance, uses and responds to a few print and digital resources
independently uses and responds to a variety of genres	uses and responds to a variety of genres	with guidance, uses and responds to genres	with assistance, uses and responds to genres
independently analyzes and responds to multiple resources and creative expressions from diverse cultures, including Montana American Indians	analyzes and responds to multiple resources and creative expressions from diverse cultures, including Montana American Indians	with guidance, analyzes and responds to multiple resources and creative expressions from diverse cultures, including Montana American Indians	with assistance, compares and contrasts multiple resources and creative expressions from diverse cultures, including Montana American Indians

Montana K-12 Information Literacy/Library Media Content Standards Framework

Information Literacy/Library Media Content Standard 5: Upon Graduation			
Advanced	Proficient	Nearing Proficiency	Novice
independently chooses resources based on personal interests	chooses resources based on personal interests	with guidance, chooses resources based on personal interests	with assistance, chooses resources based on personal interests
independently uses and critiques a variety of print and digital resources	uses and critiques a variety of print and digital resources	with guidance, uses and critiques some print and digital resources	with assistance, uses and critiques a few print and digital resources
independently uses and critiques a variety of genres	uses and critiques a variety of genres	with guidance, uses and critiques genres	with assistance, compares and contrasts genres
independently evaluates multiple resources and other creative expressions from diverse cultures, including Montana American Indians	evaluates multiple resources and other creative expressions from diverse cultures, including Montana American Indians	with guidance, evaluates multiple resources and other creative expressions from diverse cultures, including Montana American Indians	with assistance, compares and contrasts multiple resources and other creative expressions from diverse cultures, including Montana American Indians

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	Montana K-12 Information Literacy/Library Media Content Standards Glossary
---	---

Accuracy — Measures the degree to which information sources are free from mistakes and errors.

Authority —The knowledge and experience that qualifies a person to write or speak as an expert on a given subject.

Bias —Judgment unfairly influenced by subjective opinion when the situation calls for reliance on objective fact.

Big6™ —A systematic approach to information problem solving using a six step process. The Big6™ can be used whenever an individual has an information problem; co-authored by Mike Eisenberg and Bob Berkowitz.

Boolean — and, or, not; used with keywords to more effectively search a database or online catalog.

Brainstorming —An activity used to generate an idea that has no right or wrong answers.

Cite Sources —Reference to book, article, Web page or other published item with sufficient detail to identify the item uniquely. To quote or refer to an authority outside oneself (e.g., title, author, publisher, Web site, location).

Collaborate — to work together in small groups or through collaboration tools, to exchange ideas, to develop understandings.

Communication Tools —Any digital tool that allows for exchange of information and ideas both synchronously and asynchronously (e.g., e-mail, instant messaging, forums)

Copyright —The idea that the authors of ideas, designs, and products may register their intellectual property with the government, thereby limiting the extent to which others may use and profit from, modify, or perform the protected creation.

Creative Expressions —Creative or artistic works in a variety of media formats or creative or artistic productions and presentations (e.g., plays, exhibitions, concerts).

Critical Thinking —The skill required to develop effective and efficient search strategies, assess the [relevance](#) and [accuracy](#) of [information retrieved](#), evaluate the [authority](#) of the person(s) or organization producing information [content](#), and analyze the assumptions, evidence, and logical arguments presented in relevant [sources](#).

Digital Information — written language, audio, or video accessed through digital means.

Digital Media —Any type of information in digital format, including computer-generated text, graphics, audio and animations.

Digital Presentation Tools — Tools that facilitate the sharing of information with others, either locally or in a virtual environment.

Digital Sources — Text, audio, video and other Information content gathered online.

Digital Tools — Inclusive of all hardware and/or software. (e.g., computers, PDA's, personal video players, personal music players, word processors, spreadsheets, instant messaging, Web browsers, Web 2.0 tools).

Equitable access —Fair opportunity to use resources (access regardless of age, origin, background or views). School libraries provide resources and services that create and sustain an atmosphere of free inquiry.

Ethical Use —Respecting the hardware, ownership, privacy, and use of digital tools. (e.g., respecting ownership of intellectual property, being mindful of security and passwords, giving credit to cited sources, exhibiting appropriate behavior online, acknowledging boundaries of privacy).

Extract — [Draw](#) or [pull](#) out relevant information from a source.

Fair Use —Allows the education community to review, comment on, parody, and study copy-written materials with proper citation according to provisions in the U.S. Copyright Code providing for limited use of copyrighted materials for educational purposes.

Format —A general description of an item whether it is [print](#) or [nonprint](#) or digital or electronic or realia.

Global Communication—Refers to student communication outside the traditional classroom to learn collaboratively with other students from around the world.

Global Learning Environment —Digital environment that extends learning beyond the classroom walls.

Information Literacy —The ability to recognize when information is needed and then to locate, evaluate, and effectively use that information.

Information Requirement—An information requirement could be different than the information itself. For example, a requirement could be that the information is presented in a chart or table, or in HTML. A requirement relates more to the packaging and nature of the information. (Mike Eisenberg).

Inquiry —Inquiry is any process that has the aim of augmenting knowledge, resolving doubt, or solving a problem.

Intellectual Freedom —The right under the [First Amendment](#) to the U.S. Constitution of any person to read or express views that may be unpopular or offensive to some people, within certain limitations ([libel](#), slander, etc.).

Intellectual Property —Tangible products of the human mind and intelligence entitled to the legal status of personal property, especially [works](#) protected by [copyright](#), inventions that have been [patented](#), and registered [trademarks](#). An idea is considered the intellectual property of its creator only after it has been [recorded](#) or made manifest in specific form. (e.g., music, literature, artistic works, symbols, names, images, designs).

Language Hierarchy for Performance Descriptors

- **With Assistance** – One-to-one help with step-by-step learning
- **With Guidance** – Using prompts, hints, limited input
- **At proficient** – mastery level
- **Independently** - Students perform at a superior level, without prompting, beyond classroom assignment

Media literacy—The combination of knowledge and skills required to access, analyze, interpret, evaluate, and create media in a variety of forms.

Multi-literacies—Changing the notion of literacy pedagogy, this idea expands literacy to cultural expressions and technological endeavors beyond language. “Being multi-literate is being able not only to read textual messages, but also be competent in interpreting symbols and images, and in using multimedia and other technological tools, such as the internet, all of which allow us to construct meaning, learn and interact with others. Being multi-literate also embraces understanding multiculturalism and showing respect to diversity, which reflects in effective interaction.” <http://mylearningblog.blogspot.com/2004/09/multiliteracies-definition-reflection.html>

Personal Responsibility —Understanding that personal actions have effects and that individuals are responsible for choices they make.

Realia —Three-dimensional objects from real life, whether man-made or naturally occurring, usually borrowed, purchased or donated.

Relevance —The extent to which [information](#) retrieved in a [search](#) of a [library collection](#) or other resource, such as an [online catalog](#) or [bibliographic database](#), is judged by the user to be applicable to ("[about](#)") the [subject](#) of the [query](#). Relevance depends on the searcher's subjective perception of the degree to which the [document](#) fulfills the [information need](#).


Resources —Somebody or something used to solve a problem. (e.g., print materials, experts, digital materials, archives, online databases, realia, articles, Web sites).

Search Tools—A simple search field with options to search text or resources on a local, region-wide or world-wide database.

Synthesis —Creatively or divergently applying prior knowledge and skills to produce a new or original whole (adapts; anticipates; collaborates; combines; communicates; compiles; composes; creates; designs; develops; devises; expresses; facilitates; formulates; generates; hypothesizes; incorporates; individualizes; initiates; integrates; intervenes; invents; models; modifies; negotiates; plans; progresses; rearranges; reconstructs; reinforces; reorganizes; revises; structures; substitutes; validates).

Textual —Of, relating to, or conforming to a text; print.

Visual —Seen or able to be seen by the eye; visible: a visual presentation; a design with a dramatic visual effect.

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	Montana K-12 Information Literacy/Library Media Content Standards Works Cited
---	--

American Association of School Librarians. *Standards for 21st-Century Learners*. Chicago, Ill.: ALA, 2007.

Association of College and Research Libraries. *Information Literacy Competency Standards for Higher Education*. Chicago, Ill.; ALA, 2000.

Eisenberg, Michael B. and Robert E. Berkowitz. *The Big6TM Skills*. <www.big6.com>

Montana Office of Public Instruction. "Montana Content and Performance Standards for Library Media." *Administrative Rules of Montana (10.54.6510)* Helena, Mont.: OPI, 2000.

Murray, Janet R. *Achieving Educational Standards Using the Big6TM*. Columbus, OH.: Linworth, 2008.

Montana K-12 Technology Content Standards Framework



opi.mt.gov

Adopted by the Montana Board of Public Education
August 2008

This publication is in the public domain. Authorization to reproduce it in whole or in part is granted. While permission to reprint this publication is not necessary, the citation should be: Montana Office of Public Instruction. Accreditation Division. Curriculum and Instruction Unit. *Technology Content Standards Framework*. Helena, MT, 2010.


 Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov	Montana K-12 Technology Content Standards Framework
---	--

Table of Contents

Introduction	pg 4
Preface to Technology Content Standards	pg 6
Technology Standard 1 (ARM 10.54.7510-7513)	pg 7
Technology Standard 2 (ARM 10.54.7520-7523)	pg 8
Technology Standard 3 (ARM 10.54.7530-7533)	pg 9
Technology Standard 4 (ARM 10.54.7540-7543)	pg 10
Performance Descriptors “A Profile of Four Levels” (ARM 10.54.7601-7648) ...	pg 11
Glossary.....	pg 22
Works Cited	pg 25

Introduction

In 2005 the Montana Board of Public Education initiated the Standards Revision Project to assure Montana citizens that its public schools are providing **all** children of our great state with challenging academic expectations. The Montana Board of Public Education is charged with the responsibility of leading a process of standards revision that meets the following guiding principles.

Revised learning standards which are academic in focus, rigorous but attainable, readily understandable, and designed to measure the progress of students toward meeting them, will lead to the improvement of Montana's schools and a brighter future for our people.

Revised standards must clearly and consistently identify what students should know, understand and be able to do. Parents, educators, and the greater Montana community must be involved in the revision process. Revised standards will provide a framework to help guide local curriculum and instruction, encouraging school districts and teachers to place emphasis on critical areas of learning. In addition, standards should be measured and made known to the Montana public.

With the vital purpose of improving Montana's schools as our goal, the Montana Board of Public Education sets forth the following criteria to guide Standards Revision:

1. Standards will be academic in nature and content specific.
2. Standards will be challenging and rigorous.
3. Standards will be clear, understandable and free of jargon.
4. Standards will be measurable.
5. Standards will address diversity specifically fulfilling the commitment to implementing MCA 20-1-501, Indian Education for All.

With the purpose of developing a successful and useful product, the Montana Board of Public Education sets forth the following process to guide the Montana Standards Revision:

1. Use the existing Montana Standards Framework – current accreditation program delivery and foundation standards, content and performance standards and benchmarks, and existing structure (4th, 8th, and upon graduation);
2. Use proven practices from Montana classrooms;
3. Consider international, national and other states' standards;
4. Consider entrance expectations for workplace and postsecondary education;
5. Consider achievement and other related data;
6. Consider other research e.g., Education Northwest, School Redesign Network, National Study of School Evaluation, etc.;
7. Consider comments from professional education associations;
8. Consider comments from tribal and school district educators;
9. Consider recommendations from the Montana Advisory Council for Indian Education; and
10. Involve the Montana public.

Pursuant to Article X Sect 1(2) of the Constitution of the state of Montana and statutes §20-1-501 and §20-9-309 2(c) MCA, the implementation of these standards must incorporate the distinct and unique cultural heritage of Montana American Indians.

Components of the Technology Content Standards Framework

The Technology Content Standards Framework is a set of agreements, rationales, and rules that provides the foundation for standards-based Technology education in Montana. This framework is the blueprint for further development of key components, such as Essential Learning Expectations, Performance Rubrics, and curriculum. The content standards framework contains:

- K-12 content standards;
- rationale for each content standard;
- benchmarks at the end of grade 4, end of grade 8, and upon graduation;
- performance descriptors at the levels of novice, nearing proficiency, proficient and advanced;
- a glossary; and
- works cited.


In order to use this framework effectively, it is essential to understand the distinctions between and the intended purpose of its various components.

Content Standards: The four technology content standards indicate what all students should know, understand, and be able to do in Technology. Their purpose is to guide the technology curriculum and to communicate the breadth of the technology to be taught to all students. A district's mathematics curriculum should be designed so that learning encompasses all four standards.

Rationales: Outlines the fundamental reasons for each of the content standards and provides the basis for the knowledge and skills included in the benchmarks.

Benchmarks: The benchmarks define expectations for students' scientific knowledge and skills along a developmental continuum. They define expectations for proficient students at the end of grade 4, end of grade 8, and upon graduation. Their purpose is to state clearly and specifically what the students should know and be able to do within each content standard. A district's curriculum should include the entire progression of knowledge contained in the benchmarks.

Performance Descriptors: Performance descriptors define how well students apply the knowledge and skills they have acquired. They gauge the level to which benchmarks have been attained in terms of range, frequency, facility, depth, creativity and quality. Achievement of curricular goals is assessed by the performance descriptors.

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	<p>Preface to Technology Content Standards</p>
---	---

Today's learners—teachers and students—are continually affected by a variety of digital technologies. These technologies have altered their expectations and skills. Traditional instruction alone no longer provides students with all the skills necessary to find personal value and professional success. Therefore, education needs to play an increasing role in empowering learners to be technologically literate and to integrate digital tools into their lives.

Expectations for student learning are increasing as digital tools make basic tasks easier. We must help students meet these expectations by understanding that:

- digital technology must be in the hands of all students;
- technological literacy includes more than simple mastery of skills;
- digital citizens must use digital tools safely and responsibly;
- learning environments are no longer constrained by school walls; they are global and personal;
- digital technology skills are acquired, developed, and mastered at an individual pace and;
- access to tools and flexible networks are critical for learner success.

While digital technology tools can be used to facilitate assessment of student learning, the primary application of these tools must be used to support content area learning. Although integrated learning systems can be used to deliver curriculum, true technology integration involves dynamic interactions among learners using digital tools.

Inquiry-based learning activities, rich in relevant content and integrated with digital technology, can facilitate collaboration, critical thinking, creativity, and problem solving. Properly applied, technology enhances learning and instruction, but does not become the focus. By providing access to information and tools for expression, opening pathways to communication, and facilitating personal understanding, technology supports learning in all subjects.

Technology Content Standard 1

The student will use digital tools and resources for problem solving and decision making.

Rationale

As personal and global problems become more complex, digital tools are powerful vehicles for data collection and analysis, collaboration, and presentation of solutions. Therefore, all learners must select and use digital tools to make sound, accurate, data-supported decisions and presentations.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
1.1 identify and investigate a problem and generate possible solutions	1.1 use multiple approaches to explore alternative solutions	1.1 use multiple approaches and diverse perspectives, including Montana American Indians, to explore alternative solutions
1.2 collect data and information using digital tools	1.2 collect relevant data and information on a subject from a variety of digital resources	1.2 collect relevant data and information on a subject from a variety of digital resources
1.3 organize collected data and information using a variety of digital tools	1.3 analyze and ethically use data and information from digital resources	1.3 select from an array of digital tools to organize and analyze data from a variety of resources
1.4 identify the accuracy, diversity and point of view, including Montana American Indians, of digital information	1.4 compare accuracy, diversity, relevance and point of view, including Montana American Indians, of digital information	1.4 evaluate and synthesize data and information
1.5 share information ethically and note sources	1.5 share data and information ethically and appropriately cite sources	1.5 share data and information ethically and appropriately cite sources

Technology Content Standard 2

The student will collaborate and communicate globally in a digital environment.

Rationale

Digital tools can facilitate collaboration and communication by opening pathways to a global learning environment. All learners share the responsibility to practice and advocate the safe and responsible use of these digital tools.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
2.1 identify and explore online collaboration and communication tools	2.1 select and use online collaboration and communication tools	2.1 evaluate and apply online collaboration and communication tools to exchange ideas and information and participate in projects
2.2 identify and explore safe, legal, and responsible use of digital collaboration and communication tools	2.2 use digital collaboration and communication tools in a safe, legal, and responsible manner	2.2 use digital collaboration and communication tools in a safe, legal, and responsible manner and advocate for such use by others
2.3 communicate the results of research and learning with others using digital tools	2.3 communicate the results of research and learning with others using digital tools	2.3 synthesize and communicate the results of research and learning with others using various digital tools
2.4 explore how technology has expanded the learning environment beyond the traditional classroom	2.4 use technology in a global learning environment	2.4 apply technology that supports collaboration, learning and productivity in a global environment

Technology Content Standard 3

The student will apply digital tools and skills with creativity and innovation to express his/herself, construct knowledge and develop products and processes.

Rationale

Digital tools can support creative and innovative expression, which is increasingly necessary in our changing world. The use of these tools can also facilitate the realization and fulfillment of one's talents and interests. The education community has the responsibility to provide access to the new avenues for creation and require nuanced understandings of digital citizenship and ownership.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
3.1 use digital tools for personal expression	3.1 apply a variety of digital tools for personal and group expression	3.1 develop projects combining multiple digital tools to suit a variety of audiences and purposes
3.2 use various digital media to share information and tell stories	3.2 use a variety of digital tools to create a product	3.2 evaluate and employ a variety of digital tools to effectively produce an original work
3.3 use technology to discover connections between facts	3.3 use technology to recognize trends and possible outcomes	3.3 use models and simulations to identify trends, predict outcomes, and investigate information
3.4 understand ownership of digital media	3.4 examine the relationship of copyright to ownership of digital media	3.4 evaluate legal protections for intellectual property and apply that understanding to personally created digital media
3.5 use digital tools and skills to construct new personal understandings	3.5 use digital tools and skills to construct new personal understandings	3.5 use digital tools and skills to construct new personal understandings

Technology Content Standard 4

The student will possess a functional understanding of technology concepts and operations.


Rationale

Solely teaching application- and device-specific skills is no longer sufficient. While core computer skills are required to harness the power of digital tools, these skills need to be adaptable to the quickly changing technological landscape.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
4.1 show skills needed to use communication, information and processing technologies	4.1 apply and refine the skills needed to use communication, information and processing technologies	4.1 apply and refine the skills needed to use communication, information and processing technologies
4.2 use appropriate terminology when communicating about current technology	4.2 use appropriate terminology when communicating about current technology	4.2 use appropriate terminology when communicating about current technology
4.3 transfer current knowledge to learning of new technology skills	4.3 transfer current knowledge to learning of new technology skills	4.3 transfer current knowledge to learning of new technology skills

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent</p> <p>opi.mt.gov</p>	<p>Montana K-12 Technology Performance Descriptors A Profile of Four Levels</p>
--	--

The Technology Performance Descriptors define how well students perform at four performance levels: advanced, proficient, nearing proficiency, and novice. These profiles describe students as they apply the knowledge and skills defined in the benchmarks for the End of Grade 4, End of Grade 8, and Upon Graduation.

Advanced	Proficient	Nearing Proficiency	Novice
<p>A student at the advanced level demonstrates superior performance. He/she:</p>	<p>A student at the proficient level demonstrates solid academic performance. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter. He/she:</p>	<p>A student at the nearing proficiency level demonstrates partial mastery of the prerequisite knowledge and skills fundamental for proficiency. He/she:</p>	<p>A student at the novice level is beginning to attain the prerequisite knowledge and skills that are fundamental for proficiency. He/she:</p>

Technology Content Standard 1: End of Grade 4			
Advanced	Proficient	Nearing Proficiency	Novice
consistently uses digital tools and resources for problem solving and decision making	uses digital tools and resources for problem solving and decision making	with guidance, examines digital tools and resources for problem solving and decision making	demonstrates limited understanding of digital tools and resources for problem solving and decision making
effectively uses assigned digital tools to identify a problem	effectively uses assigned digital tools to identify a problem	with guidance, uses digital tools to identify a problem	has limited understanding of digital tools used to identify a problem
brainstorms ways to generate possible solutions	uses guided brainstorming to generate possible solutions	chooses a solution from a teacher-provided list	with assistance, chooses a solution from a teacher-provided list

Montana K-12 Technology Content Standards Framework

Technology Content Standard 1: End of Grade 4			
Advanced	Proficient	Nearing Proficiency	Novice
uses assigned digital tools to collect data and information from a variety of resources	explores assigned digital tools to collect data and information from a variety of resources	with guidance, explores assigned digital tools to collect data and information from a variety of resources	with assistance, uses a basic digital tool to collect data and information
uses assigned digital tools to organize data and information	uses assigned digital tools to organize data and information	uses an assigned digital template to organize data and information	with assistance, uses an assigned digital template to organize data and information
effectively identifies accurate and inaccurate information	differentiates between accurate and inaccurate information	with guidance, differentiates between accurate and inaccurate information	has limited understanding of accurate and inaccurate information
understands diversity and point of view, including Montana American Indians	recognizes diversity and point of view, including Montana American Indians	with guidance, recognizes diversity and point of view, including Montana American Indians	has limited understanding of diversity and point of view
identifies and notes the work of others	recognizes that using the work of others needs to be noted	with guidance, recognizes that using the work of others needs to be noted	has limited recognition of the concept of using the work of others
understands the concept of digital media ownership	explores the concept of digital media ownership	with guidance, explores the concept of digital media ownership	has limited understanding of the concept of digital media ownership

Montana K-12 Technology Content Standards Framework

Technology Content Standard 1: End of Grade 8			
Advanced	Proficient	Nearing Proficiency	Novice
independently uses multiple approaches to explore alternative solutions	demonstrates a clear understanding of multiple approaches to explore alternative solutions	with guidance, explores multiple approaches to explore alternative solutions	has difficulty selecting approaches to explore alternative solutions
thoughtfully collects relevant data and information on a subject from a variety of digital resources	collects relevant data and information on a subject from a variety of digital resources	with guidance, collects relevant data and information on a subject from a variety of digital resources	has limited success collecting relevant data and information on a subject from digital resources
			has difficulty analyzing data and information from digital resources
clearly demonstrates analysis and ethical use of data and information from digital resources	analyzes and ethically uses data and information from digital resources	with guidance, understands the analysis and ethical use of data and information from digital resources	has difficulty understanding ethical use of data and information from digital resources
evaluates the accuracy, diversity, relevance and point of view, including Montana American Indians, of digital information	understands the concepts of accuracy, diversity, relevance and point of view, including Montana American Indians, of digital information	with guidance, occasionally recognizes accuracy, relevance and point of view, including Montana American Indians, of digital information	has difficulty identifying accuracy, relevance and point of view, including Montana American Indians, of digital information
consistently demonstrates ethical practices when sharing data and information	demonstrates ethical practices when sharing data and information	with guidance, demonstrates ethical practices when sharing data and information	has limited success sharing data and information ethically
appropriately cites sources using multiple styles	correctly cites digital sources	with guidance, cites digital sources	has difficulty citing sources appropriately

Montana K-12 Technology Content Standards Framework

Technology Content Standard 1: Upon Graduation			
Advanced	Proficient	Nearing Proficiency	Novice
independently applies multiple approaches and diverse perspectives, including Montana American Indians, to explore alternative solutions	applies multiple approaches and diverse perspectives, including Montana American Indians, to explore alternative solutions	with guidance, uses multiple approaches and diverse perspectives, including Montana American Indians, to explore alternative solutions	has limited success using multiple approaches and diverse perspectives, including Montana American Indians, and difficulty exploring alternative solutions
independently and effectively collects relevant data and information on a subject from a variety of digital resources	consistently collects relevant data and information on a subject from a variety of digital resources	with guidance, collects relevant data and information on a subject from a variety of digital resources	has difficulty finding relevant data and information on a subject from a variety of digital resources
independently explores and implements an appropriate digital tool to organize and analyze data from a variety of resources	successfully selects from an array of digital tools to organize and analyze data from a variety of resources	with guidance, selects from a designated set of digital tools to organize and analyze data from a variety of resources	has difficulty selecting digital tools to organize and analyze data from a variety of resources
routinely evaluates and synthesizes data and information	effectively evaluates and synthesizes data and information	with guidance, evaluates and synthesizes data and information	can seldom evaluate and synthesize data and information
consistently shares data and information ethically	shares data and information ethically	with guidance, shares data and information ethically	can seldom share data and information ethically
independently cites sources in the appropriate style	cites sources in the appropriate style	with guidance, appropriately cites sources	has difficulty citing sources

Montana K-12 Technology Content Standards Framework

Technology Content Standard 2: End of Grade 4			
Advanced	Proficient	Nearing Proficiency	Novice
independently uses digital tools to synchronously and asynchronously communicate with other age-level students outside their classroom environment; independently uses digital tools to collaborate with peers on projects and assignments outside their classroom environment	uses digital tools to synchronously and asynchronously communicate with other age-level students in their classroom environment; uses digital tools to collaborate with peers on projects and assignments in their classroom environment	with guidance, uses digital tools to synchronously and asynchronously communicate with other age-level students in their classroom environment; with guidance, uses digital tools to collaborate with peers on projects and assignments in their classroom environment	with assistance, uses simple digital tools to synchronously or asynchronously communicate with other age-level students in their classroom environment; with assistance, uses simple digital tools to collaborate with peers on projects and assignments in their classroom environment
identifies and consistently uses safe, legal and responsible practices in using communication and collaboration technologies	identifies safe, legal and responsible practices in using communication and collaboration technologies	with guidance, identifies safe, legal and responsible practices in using communication and collaboration technologies	with assistance, identifies core safe, legal and responsible practices in using communication and collaboration technologies
shares the results of research with peers using digital presentation tools both online and in person	shares the results of research with peers using digital presentation tools either online or in person	with guidance, shares the results of research with peers using digital presentation tools either online or in person	with assistance, shares the results of research with peers using digital presentation tools either online or in person
independently identifies and uses technologies that provide learning opportunities beyond the traditional classroom	identifies technologies that provide learning opportunities beyond the traditional classroom	with guidance, identifies technologies that provide learning opportunities beyond the traditional classroom	with assistance, identifies basic technologies that provide learning opportunities beyond the traditional classroom

Montana K-12 Technology Content Standards Framework

Technology Content Standard 2: End of Grade 8			
Advanced	Proficient	Nearing Proficiency	Novice
independently selects the most effective digital tools to synchronously and asynchronously communicate with other age-level students in and out of their classroom environment	selects appropriate digital tools to synchronously and asynchronously communicate with other age-level students in and out of their classroom environment	with guidance, selects appropriate digital tools to synchronously and asynchronously communicate with other age-level students in and out of their classroom environment	with assistance, uses digital tools to synchronously and asynchronously communicate with other age-level students in their classroom environment
independently selects the most effective digital tools to collaborate with peers on projects and assignments in and out of their classroom environment	selects appropriate digital tools to collaborate with peers on projects and assignments in and out of their classroom environment	with guidance, selects appropriate digital tools to collaborate with peers on projects and assignments in and out of their classroom environment	with assistance, uses digital tools to collaborate with peers on projects and assignments in their classroom environment
independently uses safe, legal and responsible practices in using communication and collaboration technologies	consistently uses safe, legal and responsible practices in using communication and collaboration technologies	with guidance, consistently uses safe, legal and responsible practices in using communication and collaboration technologies	with assistance, identifies safe, legal and responsible practices in using communication and collaboration technologies
independently and effectively shares the results of research with peers using a variety of digital presentation tools both online and in person	effectively shares the results of research with peers using digital presentation tools both online and in person	with guidance, effectively shares the results of research with peers using digital presentation tools both online and in person	with assistance, shares the results of research with peers using digital presentation tools either online or in person
independently and effectively uses a variety of technologies to learn beyond the scope of the traditional classroom	effectively uses technology to learn beyond the scope of the traditional classroom	with guidance, effectively uses technology to learn beyond the scope of the traditional classroom	with assistance, identifies technologies to learn beyond the scope of the traditional classroom

Montana K-12 Technology Content Standards Framework

Technology Content Standard 2: Upon Graduation			
Advanced	Proficient	Nearing Proficiency	Novice
evaluates and independently selects digital tools to synchronously and asynchronously communicate with others outside of the formal classroom environment	evaluates and independently selects digital tools to synchronously and asynchronously communicate with others in and out of their classroom environment	with guidance, evaluates and selects digital tools to synchronously and asynchronously communicate with others in and out of their classroom environment	with assistance, selects digital tools to synchronously and asynchronously communicate with others in their classroom environment
evaluates and independently selects digital tools to collaborate with others on projects and assignments outside of the formal classroom environment	evaluates and independently selects digital tools to collaborate with others on projects and assignments in and out of their classroom environment	with guidance, evaluates and selects digital tools to collaborate with others on projects and assignments in and out of their classroom environment	with assistance, selects digital tools to collaborate with others on projects and assignments in their classroom environment
independently uses and advocates to others safe, legal and responsible practices in using communication and collaboration technologies	consistently uses and advocates to others safe, legal and responsible practices in using communication and collaboration technologies	consistently uses, and with direction, advocates to others safe, legal and responsible practices in using communication and collaboration technologies	with assistance, uses safe, legal and responsible practices in using communication and collaboration technologies
independently and effectively synthesizes and communicates the results of research with others using digital presentation tools both online and in person outside of the formal classroom environment	effectively synthesizes and communicates the results of research with others using digital presentation tools both online and in person	with guidance, communicates the results of research with others using digital presentation tools both online and in person	with assistance, communicates the results of research with others using digital presentation tools either online or in person
independently and effectively uses technology to learn and teach beyond the scope of the traditional classroom	effectively uses technology to learn and teach beyond the scope of the traditional classroom	with guidance, uses technology to learn and teach beyond the scope of the traditional classroom	with assistance, uses technology to learn beyond the scope of the traditional classroom

Montana K-12 Technology Content Standards Framework

Technology Content Standard 3: End of Grade 4			
Advanced	Proficient	Nearing Proficiency	Novice
effectively applies digital tools and skills to create and share personal expressions in a variety of media	applies digital tools and skills to create and share personal expressions in a variety of media	with guidance attempts to apply digital tools and skills to create and share personal expressions in a variety of media	with assistance attempts to apply digital tools and skills to create and share personal expressions in a variety of media
independently uses digital tools creatively to produce original works uncommon for this grade level			
applies basic rules of ownership of digital media to their own personal use	understands basic rules of ownership of digital media	with guidance, acknowledges basic rules of ownership of digital media	with assistance, recognizes basic rules of ownership of digital media
uses digital tools to develop new understandings by discovering the connections between facts	uses digital tools to discover connections between facts	with guidance, uses digital tools to discover connections between facts	with assistance, attempts to use digital tools to discover connections between facts

Technology Content Standard 3: End of Grade 8			
Advanced	Proficient	Nearing Proficiency	Novice
effectively applies a variety of digital tools to create a multimedia product for personal and group expression	applies a variety of digital tools to create a product for personal and group expression	uses a digital tool to create a product for personal and group expression	with assistance, uses a digital tool to create a product for personal and group expression
independently combines digital tools creatively to produce original works that exceed expectations			
effectively uses technology to predict reasonable trends and outcomes	uses technology to predict reasonable trends and outcomes	with guidance, uses technology to predict reasonable trends and outcomes	with assistance, uses technology to predict trends and outcomes

Montana K-12 Technology Content Standards Framework

Technology Content Standard 3: End of Grade 8			
Advanced	Proficient	Nearing Proficiency	Novice
independently applies basic rules of ownership of digital media to their own personal use	understands the relationship of copyright to ownership of digital media	explores the relationship of copyright to ownership of digital media	with assistance, begins to understand the relationship of copyright to ownership of digital media

Technology Content Standard 3: Upon Graduation			
Advanced	Proficient	Nearing Proficiency	Novice
initiates distinguished multimedia projects combining image, text and sound to suit a variety of audiences and purposes	develops multimedia projects combining image, text and sound to suit a variety of audiences and purposes	with guidance, develops multimedia projects combining image, text and sound to suit a variety of audiences and purposes	develops, with assistance, a multimedia project combining image, text and sound to suit a specific audience and purpose
adapts digital tools to create products of a professional quality			
independently evaluates and employs a variety of digital tools to effectively create innovative work	evaluates and employs a variety of digital tools to effectively produce an original work	with guidance, evaluates and employs a variety of digital tools to produce an original work	with assistance, evaluates and employs a variety of digital tools to produce an original work
creates models and simulations to identify trends, predict reasonable outcomes, and effectively investigate information	uses models and simulations to accurately identify trends, predict reasonable outcomes, and effectively investigate information	with guidance, uses models and simulations to identify trends, predict outcomes, and investigate information	with assistance, begins to use models and simulations to identify trends, predict outcomes, and investigate information
independently selects the appropriate legal protections for personally created digital media	selects, with support, the appropriate legal protections for personally created digital media	explores the appropriate legal protections for personally created digital media	with assistance, begins to understand appropriate legal protections for personally created digital media

Montana K-12 Technology Content Standards Framework

Technology Content Standard 4: End of Grade 4			
Advanced	Proficient	Nearing Proficiency	Novice
independently demonstrates ability to input commands and data into digital devices	demonstrates ability to input commands and data into digital devices	with guidance, demonstrates ability to input commands and data into digital devices	with assistance, demonstrates ability to input commands and data into digital devices
independently identifies the appropriate digital tool to complete tasks	identifies the appropriate digital tool to complete tasks	with guidance, identifies the appropriate digital tool to complete tasks	
independently uses proper terminology when communicating about technology	uses proper terminology when communicating about technology	with guidance, uses proper terminology when communicating about technology	with assistance, identifies the appropriate digital tool to complete tasks
independently adapts current technology skills to additional and emerging technologies	adapts current technology skills to additional and emerging technologies	with guidance, adapts current technology skills to additional and emerging technologies	with assistance, attempts using proper terminology when communicating about technology

Technology Content Standard 4: End of Grade 8			
Advanced	Proficient	Nearing Proficiency	Novice
independently demonstrates a consistent ability to input commands and data into digital devices	demonstrates a consistent ability to input commands and data into digital devices	with guidance, demonstrates a consistent ability to input commands and data into digital devices	with assistance, demonstrates an ability to input commands and data into digital devices
independently identifies the best appropriate digital tool to complete tasks	identifies the best digital tool to complete tasks	with guidance, identifies the best digital tool to complete tasks	
independently adapts current technology skills to additional and emerging technologies			

Montana K-12 Technology Content Standards Framework

Technology Content Standard 4: End of Grade 8			
Advanced	Proficient	Nearing Proficiency	Novice
independently uses proper terminology when communicating about technology	uses proper terminology when communicating about technology	with guidance, uses proper terminology when communicating about technology	with assistance, identifies the appropriate digital tool to complete tasks
teaches others proper usage and core technology skills	adapts current technology skills to additional and emerging technologies	with guidance, adapts current technology skills to additional and emerging technologies	with assistance, attempts using proper terminology when communicating about technology

Technology Content Standard 4: Upon Graduation			
Advanced	Proficient	Nearing Proficiency	Novice
independently demonstrates a consistent ability to input commands and data into digital devices	demonstrates a consistent ability to input commands and data into digital devices	with guidance, demonstrates a consistent ability to input commands and data into digital devices	with assistance, demonstrates an ability to input commands and data into digital devices
independently identifies the best appropriate digital tool to complete tasks	identifies the best digital tool to complete tasks	with guidance, identifies the best digital tool to complete tasks	with assistance, identifies the appropriate digital tool to complete tasks
independently uses proper terminology when communicating about technology	uses proper terminology when communicating about technology	with guidance, uses proper terminology when communicating about technology	with assistance, attempts using proper terminology when communicating about technology
independently adapts current technology skills to additional and emerging technologies	adapts current technology skills to additional and emerging technologies	with guidance, adapts current technology skills to additional and emerging technologies	
teaches others advanced usage and core technology skills	teaches others proper usage and core technology skills		
adapts existing digital tools to create and process data in innovative ways			



Montana
Office of Public Instruction
Denise Juneau, State Superintendent

opi.mt.gov

Montana K-12 Technology Content Standards Glossary

The glossary identifies and describes key terms within the content standards, benchmarks, and performance descriptors. The purpose of the glossary is to help educators better understand and implement the technology content standards, benchmarks and performance descriptors. It is not intended to be a study guide for students and is not a comprehensive list of all technology terms.

Asynchronous Communication - Asynchronous means not occurring at the same time. Asynchronous refers to content, instruction, and communication between participants (e.g., students and teachers) that occurs at different times, the period of which may vary by circumstance (e.g., e-mail, threaded discussions, homework, message boards).

Broad Perspective - becoming a global thinker, including consideration and possible adaptation of other's views.

Collaborate - to work together in small groups or through collaboration tools, to exchange ideas, to develop understandings

Collaboration Tools - Any digital tool that allows for shared input both synchronous and asynchronous (e.g., social networks, wikis, blogs, social bookmarking, forums, video-conferencing, online productivity tools).

Communication Tools - Any digital tool that allows for exchange of information and ideas both synchronous and asynchronous (e.g., e-mail, instant messaging, forums).

Copyright - The idea that the authors of ideas, designs, and products may register their intellectual property with the government, thereby limiting the extent to which others may use and profit from, modify, or perform the protected creation. In the United States, the doctrine of Fair Use allows others to review, comment on, parody, and study copy-written materials with proper citation.

Digital Citizenship - The norms of behavior with regard to technology use. It includes online etiquette, responsible use of technology systems, information and software, safety and security.

Digital Collaboration - Using digital tools for the purpose of collaboration.

Digital Environment - A virtual space that is created using digital tools for collaboration and communication.

Digital Information - written language, audio, or video, accessed through digital means.

Digital Media - Any type of information in digital format, including computer-generated text, graphics, audio and animations.

Montana K-12 Technology Content Standards Framework

Digital Presentation Tools - Tools that facilitate the sharing of information with others, either locally or in a virtual environment.

Digital Sources - Information gathered (written, audio, video) online and noted.

Digital Tools - Inclusive of all hardware and/or software (e.g., computers, PDAs, personal video players, personal music players, word processors, spreadsheets, instant messaging, Web browsers, Web 2.0 tools).

Ethical Use - Respecting the hardware, ownership, privacy, and use of digital tools (e.g., respecting ownership of intellectual property, being mindful of security and passwords, giving credit to cited sources, exhibiting appropriate behavior online, and acknowledging boundaries of privacy).

Flexible Networks - A network environment which adapts with changing and emerging technologies and allows the users to explore interests safely and expediently.

Functional Understanding - Understanding usage sufficiently to perform day-to-day classroom tasks using digital tools.

Global Communication - Refers to student communication outside the traditional classroom to learn collaboratively with other students from around the world.

Global Learning Environment – The digital environment that extends the learning beyond the classroom walls.

Information and Communication Technology - "This term is used throughout much of the WORLD (added emphasis) in place of the word *technology*."

Information and Processing Technologies

- Data - data is raw. It simply exists and has no significance beyond its existence (in and of itself). It can exist in any form, usable or not. It does not have meaning of itself.
- Knowledge - knowledge is the appropriate collection of information, such that its intent is to be useful. Knowledge is a deterministic process.
- Understanding - understanding is an interpolative and probabilistic process. It is cognitive and analytical. It is the process by which I can take knowledge and synthesize new knowledge from the previously held knowledge.
- Wisdom - wisdom is an extrapolative and non-deterministic, non-probabilistic process. It beckons to give us understanding about which there has previously been no understanding, and in doing so, goes far beyond understanding itself.

Input Commands - Transferring information to a device with an expected performance result.

Intellectual Property - refers to a range of creations such as music, literature, artistic

Montana K-12 Technology Content Standards Framework

works, symbols, names, images or designs. Intellectual property law grants owners of such property exclusive rights to govern its use.

Inquiry - "Inquiry is any process that has the aim of augmenting knowledge, resolving doubt, or solving a problem."

Language Hierarchy for Performance Descriptors


- With Assistance – One-to-one help with step-by-step learning
- With Guidance - Walk away ... less impact ... limited input
- At proficient - no language used
- Independently - Students work on their own without guidance

Personal Responsibility - Understanding that personal actions have effects and that individuals are responsible for choices they make.

Synchronous Communication - "Synchronous" means occurring at the same time. "Synchronous" refers to content, instruction, and communication between participants (e.g., students and teachers) that occurs at the same time even though they may be in different physical locations. For example, instruction in which students and teachers are online at the same time so that a question can be immediately answered (e.g., telephone calls, face-to-face meetings, physical classrooms, chat rooms, and videoconferencing).

Technology Operations - basic skills needed to operate digital hardware and software

Web 2.0 - an emerging set of technologies occurring in the World Wide Web that aims to facilitate creativity, information sharing, and, most notably, collaboration among users.

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	<p>Montana K-12 Technology Content Standards Works Cited</p>
---	---

International Society for Technology in Education. National Educational Technology Standards for Students. 2nd Ed. Eugene, Oregon: ISTE, 2007.

Montana Office of Public Instruction. "Montana Content and Performance Standards for Technology." Administrative Rules of Montana (10.54.7501). Helena, Mont.: OPI, 2000.

Montana K-12 Mathematics Content Standards Framework



opi.mt.gov

Adopted by the Montana Board of Public Education
September 2009

This publication is in the public domain. Authorization to reproduce it in whole or in part is granted. While permission to reprint this publication is not necessary, the citation should be: Montana Office of Public Instruction. Accreditation Division, Curriculum and Instruction Unit. *Mathematics Content Standards Framework*. Helena, MT, 2010.


 Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov	Montana K-12 Mathematics Content Standards Framework
---	---

Table of Contents

Introduction	pg 2
Preface to Mathematics Content Standards	pg 6
Number Sense and Operation Content Standard 1 (ARM 10.54.4010-4013)	pg 10
Data Analysis Content Standard 2 (ARM 10.54.4020-4023)	pg 12
Geometric Reasoning Content Standard 3 (ARM 10.54.4030-4033)	pg 14
Algebraic and Functional Reasoning Content Standard 4 (ARM 10.54.4040-4043)	pg 16
Performance Descriptors “A Profile of Four Levels” (ARM 10.54.4087-4098) ...	pg 18
Performance Descriptors “Benchmarks At-A Glance”	pg 20
Works Cited	pg 21

Introduction

In 2005 the Montana Board of Public Education initiated the Standards Revision Project to assure Montana citizens that its public schools are providing **all** children of our great state with challenging academic expectations. The Montana Board of Public Education is charged with the responsibility of leading a process of standards revision that meets the following guiding principles.

Revised learning standards which are academic in focus, rigorous but attainable, readily understandable, and designed to measure the progress of students toward meeting them, will lead to the improvement of Montana's schools and a brighter future for our people.

Revised standards must clearly and consistently identify what students should know, understand and be able to do. Parents, educators, and the greater Montana community must be involved in the revision process. Revised standards will provide a framework to help guide local curriculum and instruction, encouraging school districts and teachers to place emphasis on critical areas of learning. In addition, standards should be measured and made known to the Montana public.

With the vital purpose of improving Montana's schools as our goal, the Montana Board of Public Education sets forth the following criteria to guide Standards Revision:

1. Standards will be academic in nature and content specific.
2. Standards will be challenging and rigorous.
3. Standards will be clear, understandable and free of jargon.
4. Standards will be measurable.
5. Standards will address diversity specifically fulfilling the commitment to implementing MCA 20-1-501, Indian Education for All.

With the purpose of developing a successful and useful product, the Montana Board of Public Education sets forth the following process to guide the Montana Standards Revision:

1. Use the existing Montana Standards Framework – current accreditation program delivery and foundation standards, content and performance standards and benchmarks, and existing structure (4th, 8th, and upon graduation);
2. Use proven practices from Montana classrooms;
3. Consider international, national and other states' standards;
4. Consider entrance expectations for workplace and postsecondary education;
5. Consider achievement and other related data;
6. Consider other research e.g., Education Northwest, School Redesign Network, National Study of School Evaluation, etc.;
7. Consider comments from professional education associations;
8. Consider comments from tribal and school district educators;
9. Consider recommendations from the Montana Advisory Council for Indian Education; and
10. Involve the Montana public.

Pursuant to Article X Sect 1(2) of the Constitution of the state of Montana and statutes §20-1-501 and §20-9-309 2(c) MCA, the implementation of these standards must incorporate the distinct and unique cultural heritage of Montana American Indians.

Components of the Mathematics Content Standards Framework

The Mathematics Content Standards Framework is a set of agreements, rationales, and rules that provides the foundation for standards-based Mathematics education in Montana. This framework is the blueprint for further development of key components, such as Essential Learning Expectations, Performance Rubrics, and curriculum. The content standards framework contains:

- K-12 content standards;
- rationale for each content standard;
- benchmarks at end of grade 4, end of grade 8, and upon graduation;
- performance descriptors at the levels of novice, nearing proficiency, proficient and advanced; and
- works cited.


In order to use this framework effectively, it is essential to understand the distinctions between and intended purpose of its various components.

Content Standards: The four mathematics content standards indicate what all students should know, understand, and be able to do in Mathematics. Their purpose is to guide the mathematics curriculum and to communicate the breadth of the mathematics to be taught to all students. A district's mathematics curriculum should be designed so that learning encompasses all four standards.

Rationales: Outlines the fundamental reasons for each of the content standards and provides the basis for the knowledge and skills included in the benchmarks.

Benchmarks: The benchmarks define expectations for students' scientific knowledge and skills along a developmental continuum. They define expectations for proficient students at the end of grade 4, end of grade 8, and upon graduation. Their purpose is to state clearly and specifically what the students should know and be able to do within each content standard. A district's curriculum should include the entire progression of knowledge contained in the benchmarks.

Performance Descriptors: Performance descriptors define how well students apply the knowledge and skills they have acquired. They gauge the level to which benchmarks have been attained in terms of range, frequency, facility, depth, creativity and quality. Achievement of curricular goals is assessed by the performance descriptors.

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	<p>Preface to Mathematics Content Standards</p>
---	--

The world as we know it is changing at an ever increasing pace. The teaching of mathematics in Montana's public schools needs to be flexible enough to deliver rigorous material that continues to be relevant to the changing lives of our students. In that vein, Montana teachers are challenged to envision the world not as we know it today, but the world our students will be living in tomorrow.

Envision a classroom where instruction is focused on the *big* ideas of mathematics. On a daily basis, students are expected to engage, interact, collaborate, explain and excel. Envision the powerful students such an atmosphere will create—students who are active, excited, curious, and confident; students who *learn*. In this classroom, mathematics is more than just content to be studied; it is an activity to be enjoyed.

There are many aspects of our students' school experience that are outside of our control. However, we do have influence over the mathematics we teach and how we teach it. Montana's mathematics teachers are first class. They are innovators. The standards set forth in this document are of the same quality. To bring them to life requires that Montana educators do what they do best: innovate, challenge and achieve.

Mathematical rigor is an elusive term with multiple meanings. To a pure mathematician, rigor is a mark of excellence. To a K-12 educator, "rigorous" often means "difficult," as in "AP calculus is rigorous." In the Montana Mathematics Content Standards, *rigor* is a process where students:

- approach mathematics with a disposition to accept challenge and apply effort;
 - engage in mathematical work that promotes deep knowledge of content, analytical reasoning, and use of appropriate tools; and
 - emerge fluent in the language of mathematics, proficient with the tools of mathematics, and empowered as mathematical thinkers.
-

The Mathematics Standards Development Process

The first efforts to develop and formalize state-level academic content standards were carried out by K-12 educators and largely dependent on intuition and experience. Since then, standards revision processes have evolved as the age of accountability has increased the need for research-based, clearly delineated content standards. Most academic standards now include rationales and incorporate findings from formal research studies and other sources to lend strength and validity to the resulting documents.

In the past, large-scale assessments were primarily used to evaluate the scope and depth of knowledge acquired by students. Today's assessments are also used to determine the effectiveness of curriculum and to hold districts, schools, and teachers accountable for their role in the educational process. Data collected through standardized assessments are used to measure Adequate Yearly Progress (AYP), which can have significant consequences in the life of a school. With this in mind, the 2008-09 Montana Mathematics Content Standards Revision Team worked to develop a clear, concise document, free of jargon, that plainly lays out what is expected of the proficient mathematics student at the end of grade 4, end of grade 8, and upon graduation.

Support for the Montana Mathematics Content Standards: Trends and Philosophies

Students need to be able to enter *tomorrow's* technology-driven global society equipped with the requisite mathematical knowledge and skills essential for success. For some students, this means adequate preparation to pursue higher education; for others, it means the foundation needed to enter a competitive global market with a steep learning curve and limited time for on-the-job training. Regardless of their future trajectory, all Montana students must possess *quantitative literacy* to ensure success in their endeavors.

Quantitative literacy is defined as “the level of mathematical knowledge and skills required of all citizens” (Dossey qtd. in “Why Numbers Count”). Effective mathematics teachers recognize quantitative literacy as a moving target and adapt to the subjective and shifting factors that influence how mathematics is learned and applied. The following discussion addresses these factors, embodied as mathematical processes, mathematical proficiencies, and principles for mathematics education. These fundamental elements interweave with the Montana Mathematics Content Standards like a mathematical knot with no beginning and no end.

Mathematical Processes

The National Council of Teachers of Mathematics [Principles and Standards for School Mathematics](#) recognizes five processes that complement and enhance the learning of mathematical content: connections, communication, representation, problem solving, and reasoning. The Office of Public Instruction (OPI) advocates the importance of viewing mathematics through these five lenses because:

- **Mathematics does not exist in isolation.** Learning takes place when students see connections within mathematics and apply their mathematical knowledge to other disciplines and authentic contexts;
- **Mathematics does not follow a single fixed path.** Learning takes place through multiple routes as students visualize, represent, interpret, and construct mathematical ideas in a variety of ways;
- **Mathematics is not a private enterprise.** Learning takes place when students express their mathematical ideas both verbally and in writing, engage in discourse, and work together to build concepts;
- **Mathematics is not free of context.** Learning takes place when students use mathematics to explore ideas, model situations, solve problems, and question and comprehend the world around them; and
- **Mathematics is about doing, not simply knowing.** Learning takes place when students reason, conjecture, reflect, predict, and justify their thinking to themselves and others.

For deep, successful, and lasting learning to take place, all five of these mathematical processes must be embraced and incorporated into the teaching of mathematics. In particular, the OPI values reasoning as a fundamental “habit of mind” for making sense of mathematics. The Montana Mathematics Content Standards reflect this view in the references to reasoning and sense making, emphasizing “doing” mathematics over simply knowing facts, skills and procedures.

Montana K-12 Mathematics Content Standards Framework

Mathematical Proficiency

The National Research Council has identified five research-based building blocks for mathematical proficiency. These are:

- **Conceptual understanding**—comprehension of mathematical concepts, operations, and relations;
 - **Procedural fluency**—skill in carrying out procedures flexibly, accurately, efficiently, and appropriately;
 - **Strategic competence**—ability to formulate, represent, and solve mathematical problems;
 - **Adaptive reasoning**—capacity for logical thought, reflection, explanation, and justification; and
 - **Productive disposition**—habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy.
- (National Research Council: 116)

What does mathematical proficiency mean for Montana? Performance in mathematics is measured both by accuracy and by conceptual understanding. Students know how to recognize a problem, choose appropriate procedures, seek the solution with persistence, and judge their results. Students not only possess a set of mathematical tools, they know what each tool can do and when to use it. Montana students must do mathematics themselves, not simply acknowledge the mathematics done by others. Finally, the study of mathematics must be approached in a way that allows students both to appreciate the value of mathematical competency and to believe they can achieve it themselves.

Principles of Montana Mathematics

The Montana Mathematics Content Standards were conceived and developed under a set of guiding principles agreed upon by all stakeholders in the process. Through high-quality professional development, teachers must embrace these principles and embed them into curriculum planning, instruction, and assessment of mathematics.

- **All students can successfully learn mathematics.** Adopting this view requires teachers to hold high expectations for all their students and to create mathematical experiences that enable success for all.
- **Mathematical processes are fundamental companions to content.** The five processes described earlier are essential to creating an environment where students can acquire, apply, and make meaning of mathematics.
- **Mathematics is a human endeavor with scientific, social, and cultural relevance.** Relevant context creates an opportunity for student ownership of the study of mathematics. In Montana, the Constitution pursuant to Article X Sect 1(2) and statutes §20-1-501 and §20-9-309 2(c) MCA, calls for mathematics instruction that incorporates the distinct and unique cultural heritage of Montana American Indians.
- **Technology is integral to learning mathematics.** Today's students are fluent in the language of digital media and technology. Montana educators must maximize technology's potential for enhancing mathematics learning.
- **Mathematics education is for the future, not for today.** To paraphrase a now-famous quote from Karl Fisch (qtd. in [Shift Happens](#)) today's students are preparing for jobs that do not yet exist, using technologies that are yet to be invented, to solve problems yet to be identified. Mathematics must be viewed not only through the lens of past experience, but also through a lens that will steer our students through the 21st century.

Implementing the Vision

The Montana Mathematics Content Standards and Performance Descriptors are not about mandating curriculum or recommending specific courses in Montana's schools. Instead, they are about preparing students to work and live successfully in a society that is increasingly technical, global and multicultural. The Board of Public Education has set high expectations for the performance of Montana students at all levels; it is the responsibility of local communities and districts to determine the path for their students to achieve the goals set out in this document.

Number Sense and Operation Content Standard 1

A student, applying reasoning and problem solving, will use number sense and operations to represent numbers in multiple ways, understand relationships among numbers and number systems, make reasonable estimates, and compute fluently within a variety of relevant cultural contexts, including those of Montana American Indians.

Rationale

Number sense and computational fluency are the foundation for school mathematics and life in a multicultural and quantitative society. Students who have a sense of quantity are fluent with basic facts, perform mental computations, understand that knowing the properties of operations help them solve problems determine the reasonableness of solutions, and use number to describe their world. The foundation of number sense and operations supports the other content standards.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
1.1 Whole Number Relationships: Demonstrate relationships among whole numbers; identify place value up to 100,000 and compare numbers (e.g., greater than, less than, and equal to).	1.1 Rational Number Relationships: Recognize, model, and compare different forms of integers and rational numbers including percents, fractions, decimals, and numbers using exponents and scientific notation.	1.1 Quantification: Use multiple notations to perform and interpret the effects of operations on very large and very small numbers with and without technology.
1.2 Estimation and Operations: Estimate sums, differences, products, and quotients when solving problems. Add, subtract, multiply (three-digit by two-digit factors), and divide (two-digit dividends by one-digit divisors) to solve problems. Demonstrate fluency with basic facts.	1.2 Estimation and Reasonableness: Select and apply appropriate estimation strategies to judge the reasonableness of solutions to problems including those computed on a calculator. Demonstrate correct use of order of operations.	1.2 Estimation and Accuracy: Identify situations where estimation is appropriate and determine the degree of accuracy needed for a given problem situation (and the appropriate precision in which to report answers).

Number Sense and Operation Content Standard 1

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
1.3 Whole Number Concepts: Develop multiplication and division concepts, apply number and operation models and strategies, and reason and justify using properties of operations.	1.3 Number Theory: Use number theory concepts such as prime factorization, greatest common factor, and least common multiple in problem situations.	1.3 Equivalence with Multiple Notation: Given a representation of a number or expression, find equivalent representations using multiple notations (e.g., $x^{1/2}$ vs. \sqrt{x} and visual representation of multiplying binomials).
1.4 Common Fractions and Decimals: Identify and model common fractions such as, tenths, fourths, thirds, and halves; and decimals such as money and place value to 0.001; and recognize and compare equivalent representations.	1.4 Rational Number Operations: Compute fluently and solve multi-step problems using integers, fractions, decimals, and numbers in exponential form.	1.4 Properties of Numbers and Number Systems: Analyze and apply the properties of numbers and number systems.
1.5 Length, Time, and Temperature: Select and apply appropriate standard units and tools to measure length, time, and temperature within relevant scientific and cultural situations, including those of Montana American Indians.	1.5 Metric and Standard Measurement: Use metric and standard units of measurement in relevant scientific and cultural situations, including those of Montana American Indians, compare and convert within systems, and use appropriate technology.	1.5 Modeling Relationships and Change: Identify givens and unknowns in familiar and unfamiliar situations (e.g., finance, culture, including Montana American Indians, and nature) and describe relationships between variables.
	1.6 Proportional Reasoning: Understand and apply proportional relationships to model real world situations and to solve problems involving rates, ratios, proportions, percents, and direct variation.	

Data Analysis Content Standard 2

A student, applying reasoning and problem solving, will use data representation and analysis, simulations, probability, statistics, and statistical methods to evaluate information and make informed decisions within a variety of relevant cultural contexts, including those of Montana American Indians.

Rationale

Data analysis and statistical literacy pertain to all aspects of daily life within multiple cultures. As consumers of information, students who analyze data to make decisions and predictions are better prepared to be responsible citizens. Students who understand and apply basic concepts of probability and make connections to data analysis build strong quantitative reasoning for productive personal and professional lives.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
2.1 Representing Data: Collect, represent, and organize data in tables, dot plots, bar graphs, pictographs, and stem-and-leaf plots using technology when appropriate.	2.1 Representing and Comparing Data: Collect data from a variety of contexts (e.g., science, history, and culture, including Montana American Indians). Organize and represent data in box plots, scatter plots, histograms, and circle graphs using technology when appropriate.	2.1 Representing and Analyzing Data: Select, create, and compare graphical or numerical representations of data sets using technology when appropriate. Reason about distributions using measures of central tendency and spread (e.g., percentiles, quartiles, inter-quartile range, and standard deviation).
2.2 Evaluating Data: Solve problems and make decisions using data descriptors such as minimum, maximum, median, and mode within scientific and cultural contexts, including those of Montana American Indians.	2.2 Evaluating Data and Making Conjectures: Interpret, analyze, and evaluate data using mean, median, range, and quartiles to identify trends and make decisions and predictions about data within scientific and cultural contexts, including those of Montana American Indians.	2.2 Evaluating Validity: Evaluate the validity of reports based on collected and/or published data by considering the source of the data, the design of the study, and the way data are displayed, analyzed, and interpreted.

Data Analysis Mathematics Content Standard 2

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
2.3 Likelihood of Events: Describe events from multicultural contexts, including those of Montana American Indians, as likely or unlikely and discuss the degree of likelihood using words such as certain, equally likely, and impossible.	2.3 Finding Probability and Predicting: Create sample spaces and simulations from events found in different cultures, including those of Montana American Indians, determine experimental and theoretical probabilities, and use probability to make predictions.	2.3 Rules of Probability and Expected Value: Make, evaluate, and justify decisions based on probabilities in multicultural situations, including those of Montana American Indians (e.g., finding expected value and using rules of probability).
		2.4 Counting Methods: Use technology as needed to determine the possible number of outcomes for an event or compound event using the fundamental counting principle, permutations, combinations, and other systematic counting methods.
		2.5 Curve Fitting: Model two-variable data using curve fitting with and without technology. Write an equation for a given model and decide when or if predictions based on this equation are valid.

Geometric Reasoning Content Standard 3

A student, applying reasoning and problem solving, will understand geometric properties, spatial relationships, and transformation of shapes, and will use spatial reasoning and geometric models to analyze mathematical situations within a variety of relevant cultural contexts, including those of Montana American Indians.

Rationale

Geometric reasoning complements the study of number, operations, and probability models. Students who have a sense of space analyze two- and three-dimensional shapes and their properties and relationships, and can make connections within mathematics. Geometric reasoning helps students appreciate and value mathematics and make connections to their world through multiple cultural contexts.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
3.1 Two-Dimensional Attributes: Describe, compare, and analyze attributes of two-dimensional shapes.	3.1 Properties of Solids and Figures: Define, classify and compare properties of solids and plane figures, including lines and angles.	3.1 Conjectures and Inductive Reasoning: Formulate and evaluate conjectures about geometric objects and their properties, with and without technology, applying inductive reasoning when appropriate.
3.2 Three-Dimensional Attributes: Describe attributes of three-dimensional shapes such as cubes and other rectangular prisms, pyramids, cylinders, cones, and spheres.	3.2 Congruence and Similarity: Use spatial reasoning to determine congruence, similarity, and symmetry of objects in mathematics, art, science, and culture, including Montana American Indians.	3.2 Applications of Geometric Models: Use spatial reasoning and geometric models to solve problems with and without technology in the contexts of art, science, and culture, including Montana American Indians.
3.3 Basic Transformations: Use spatial reasoning to identify slides and flips of congruent figures within artistic and cultural contexts, including those of Montana American Indians.	3.3 Transformations including Dilations: Define, identify, and execute transformations including translations, rotations, reflections, and dilations with appropriate technology.	3.3 Multiple Geometric Approaches: Identify, analyze, and use transformational, coordinate, and synthetic geometric approaches to solve problems.

Geometric Reasoning Content Standard 3

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
3.4 Linear Measurement: Estimate and measure linear attributes of objects in metric units such as centimeters and meters and customary units such as inch, foot, and yard.	3.4 Angles, Surface Area, and Volume: Measure and compute angles, perimeter, area, surface area, and volume including the use of formulas and choosing appropriate units.	3.4 Indirect Measurement: Determine measures of two- and three-dimensional objects and their elements using trigonometric ratios, proportionality, the Pythagorean Theorem, and angle relationships.
3.5 Area and Perimeter: Define and determine area and perimeter of common polygons using concrete tools such as grid paper, objects, or technology and justify the strategy used.	3.5 Justifying Relationships: Develop informal arguments to verify geometric relationships and solve problems such as an informal justification of the Pythagorean Theorem in a variety of contexts.	3.5 Methods of Proof: Establish the validity of geometric conjectures using deductive reasoning, indirect proof, and counterexamples, and critique arguments made by others.

Algebraic and Functional Reasoning Content Standard 4

A student, applying reasoning and problem solving, will use algebraic concepts and procedures to understand processes involving number, operation, and variables and will use procedures and function concepts to model the quantitative and functional relationships that describe change within a variety of relevant cultural contexts, including those of Montana American Indians.

Rationale

The study of algebra and functions opens doors and expands opportunities in numerous 21st century careers throughout many cultures. Students who generalize patterns and represent relationships in multiple ways develop significant understandings of mathematics and the use of quantitative reasoning in other disciplines. Algebra and functions are powerful tools for modeling real world relationships and making informed decisions.

Benchmarks


A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
4.1 Patterns and Relations: Describe, extend, and make generalizations about geometric or numeric patterns.	4.1 Representing and Generalizing Patterns: Create and use tables, graphs or diagrams, symbolic expressions, and verbal descriptions to represent, analyze, and generalize a variety of patterns involving numbers and operations.	4.1 Representing Functions: Represent functions in a variety of ways including tables, graphs or diagrams, verbal descriptions, and symbolic expressions in recursive and explicit form. Justify the choice of an appropriate form for solving a given problem.
4.2 Symbols and Expressions: Use letters, boxes, or symbols to represent numbers in simple expressions or equations to demonstrate a basic understanding of variables.	4.2 Linear Functions: Identify linear and non-linear functional relationships and contrast their properties using tables, graphs, or equations with appropriate technology.	4.2 Variables and Parameters: Determine the appropriate symbolic representation of a given contextual situation (e.g., variables and parameters in equations, inequalities, functions, and matrices).

Algebraic and Functional Reasoning Content Standard 4

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
4.3 Properties of Number and Operation: Use number patterns to investigate properties of numbers such as even or odd and properties of operations such as commutative, associative, distributive, and the multiplicative and additive identities.	4.3 Multi-step equations and inequalities: Use number properties and inverse operations to solve multi-step equations and inequalities involving a single variable.	4.3 Solving Systems of Equations and Inequalities: Solve a variety of equations, inequalities and systems of equations and inequalities, justify the solution process, and interpret the solution in context.
4.4 Equivalent Expressions: Develop an understanding of equivalence by expressing numbers, measures, and numerical expressions involving operations in a variety of ways.	4.4 Equivalent Algebraic Expressions: Recognize, simplify, and generate equivalent forms of algebraic expressions, justifying each step with properties of operations.	4.4 Families of Functions and Transformations: Analyze the effects of transformations on families of functions and recognize their characteristics. Represent and use functions in equivalent forms to identify and perform transformations.
4.5 Numerical Modeling with Manipulatives: Model problem situations with manipulatives or technology and use multiple representations such as words, pictures, tables, or graphs to draw conclusions using cultural contexts, including those of Montana American Indians.	4.5 Linear Modeling: Identify and compute rate of change/slope and intercepts from equations, graphs, and tables; model and solve contextual problems involving linear proportions or direct variation using cultural contexts, including those of Montana American Indians.	4.5 Analyzing and Conjecturing with Models: Given data or a problem situation, select and use an appropriate function model to analyze results or make a prediction with and without technology using cultural contexts, including those of Montana American Indians.

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent</p> <p>opi.mt.gov</p>	<p>Montana K-12 Mathematics Performance Descriptors A Profile of Four Levels</p>
--	---


The Mathematics Performance Descriptors define how well students perform at four performance levels: advanced, proficient, nearing proficiency, and novice. These profiles describe students as they apply the knowledge and skills defined in the benchmarks and found in the "Benchmarks At-A-Glance" document for End of Grade 4, End of Grade 8, and Upon Graduation.


Advanced	Proficient	Nearing Proficiency	Novice
A student at the advanced level in mathematics demonstrates superior performance. He/she:	A student at the proficient level in mathematics demonstrates solid academic performance. He/she:	A student at the nearing proficiency level in mathematics demonstrates partial mastery of the prerequisite knowledge and skills fundamental for proficiency. He/she:	A student at the novice level in mathematics is beginning to attain the prerequisite knowledge and skills that are fundamental for proficiency. He/she
gives responses that exhibit advanced understanding of the problem or situation presented	gives responses that exhibit clear understanding of the problem or situation presented	gives responses that exhibit some understanding of the problem or situation presented	gives responses that exhibit significant difficulty in understanding basic concepts, reasoning, implementing problem solving strategies, and making connections
consistently demonstrates advanced conceptualization	makes connections within the mathematical and/or real world	makes rudimentary connections between the mathematical and/or real world	severely lacks basic skills, representation, structure, and process development

Montana K-12 Mathematics Content Standards Framework

Advanced	Proficient	Nearing Proficiency	Novice
makes connections within and between the mathematical and real world	determines a process and sufficiently communicates correct problem solving strategies through relevant representations	struggles to communicate effectively	attempts to solve problems
applies more than one process and uses multiple representations to determine solutions accurately	has occasional errors but these do not interfere with appropriate strategies	uses limited evidence of representations to show understanding	has substantial errors
clearly communicates and justifies reasoning and structure of solutions	has reasonable and well-supported solutions	has some basic reasoning skills that are apparent but uses insufficient computational skills and problem solving strategies	lacks communication skills that hinder student's progress
<div> These profiles apply to the "Benchmarks At-A-Glance" document for End of Grade 4, End of Grade 8, and Upon Graduation. </div>		has frequent errors and lack of structure that detract from mathematical knowledge and skills	

Montana K-12 Mathematics Content Standards Framework

 Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov		Montana K-12 Mathematics Performance Descriptors Benchmarks At-A-Glance
End of Grade 4	End of Grade 8	Upon Graduation
1.1 whole number relationships 1.2 estimation and operations 1.3 whole number concepts; 1.4 common fractions and decimals 1.5 length, time, and temperature	1.1 rational number relationships 1.2 estimation and reasonableness 1.3 number theory 1.4 rational number operations 1.5 metric and standard measurement 1.6 proportional reasoning	1.1 quantification 1.2 estimation and accuracy 1.3 equivalence with multiple notation 1.4 properties of numbers and number systems 1.5 modeling relationships and change
2.1 representing data 2.2 evaluating data 2.3 likelihood of events	2.1 representing and comparing data 2.2 evaluating data and making conjectures 2.3 finding probability and predicting	2.1 representing and analyzing data sets 2.2 evaluating validity 2.3 rules of probability and expected value 2.4 counting methods 2.5 curve fitting
3.1 two-dimensional attributes 3.2 three-dimensional attributes 3.3 basic transformations 3.4 linear measurement 3.5 area and perimeter	3.1 properties of solids and figures 3.2 congruence and similarity 3.3 transformations including dilations 3.4 angles, surface area, and volume 3.5 justifying relationships	3.1 conjectures and inductive reasoning 3.2 applications of geometric models 3.3 multiple geometric approaches 3.4 indirect measurement 3.5 methods of proof
4.1 patterns and relations 4.2 symbols and expressions 4.3 properties of number and operation 4.4 equivalent expressions 4.5 numerical modeling with manipulatives	4.1 representing and generalizing patterns 4.2 linear functions 4.3 multi-step equations and inequalities 4.4 equivalent algebraic expressions 4.5 linear modeling	4.1 representing functions 4.2 variables and parameters 4.3 solving systems of equations and inequalities 4.4 families of functions and transformations 4.5 analyzing and conjecturing with models

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	Montana K-12 Mathematics Content Standard Works Cited
---	--

Fisch, Karl. *Shift Happens*. www.youtube.com. Feb. 2007. 19 Apr. 2009.

National Council of Teachers of Mathematics. *Principles and Standards for School Mathematics*. Reston: National Council of Teachers of Mathematics, 2000.

Kilpatrick, Jeremy, et al. *Adding it Up: Helping Children Learn Mathematics*. Washington, DC: National Academy Press, 2001.

Steen, Lynn Arthur, ed.. *Why Numbers Count: Quantitative Literacy for Tomorrow's America*. New York: College Board, 1997.


Montana K-12 Communication Arts Content Standards Framework



opi.mt.gov

Adopted by the Montana Board of Public Education
January 2010

This publication is in the public domain. Authorization to reproduce it in whole or in part is granted. While permission to reprint this publication is not necessary, the citation should be: Montana Office of Public Instruction. Accreditation Division, Curriculum and Instruction Unit. *Communication Arts Content Standards Framework*. Helena, MT, 2010.

 Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov	Montana K-12 Communication Arts Content Standards Framework
---	--

Introduction.....	pg 4
Preface to the Communication Arts Content Standards.....	pg 6
Communication Arts Speaking and Listening Content Standard 1.....	pg 7
Communication Arts Reading Content Standard 2.....	pg 9
Communication Arts Literature Content Standard 3.....	pg 12
Communication Arts Media Literacy Content Standard 4	pg 14
Communication Arts Writing Content Standard 5.....	pg 16
Communication Arts Performance Descriptors.....	pg 19
Works Cited.....	pg 24

Introduction

In 2005 the Montana Board of Public Education initiated the Standards Revision Project to assure Montana citizens that its public schools are providing **all** children of our great state with challenging academic expectations. The Montana Board of Public Education is charged with the responsibility of leading a process of standards revision that meets the following guiding principles.

Revised learning standards which are academic in focus, rigorous but attainable, readily understandable, and designed to measure the progress of students toward meeting them, will lead to the improvement of Montana's schools and a brighter future for our people.

Revised standards must clearly and consistently identify what students should know, understand and be able to do. Parents, educators, and the greater Montana community must be involved in the revision process. Revised standards will provide a framework to help guide local curriculum and instruction, encouraging school districts and teachers to place emphasis on critical areas of learning. In addition, standards should be measured and made known to the Montana public.

With the vital purpose of improving Montana's schools as our goal, the Montana Board of Public Education sets forth the following criteria to guide Standards Revision:

1. Standards will be academic in nature and content specific.
2. Standards will be challenging and rigorous.
3. Standards will be clear, understandable and free of jargon.
4. Standards will be measurable.
5. Standards will address diversity specifically fulfilling the commitment to implementing MCA 20-1-501, Indian Education for All.

With the purpose of developing a successful and useful product, the Montana Board of Public Education sets forth the following process to guide the Montana Standards Revision:

1. Use the existing Montana Standards Framework – current accreditation program delivery and foundation standards, content and performance standards and benchmarks, and existing structure (4th, 8th, and upon graduation);
2. Use proven practices from Montana classrooms;
3. Consider international, national and other states' standards;
4. Consider entrance expectations for workplace and postsecondary education;
5. Consider achievement and other related data;
6. Consider other research e.g., Education Northwest, School Redesign Network, National Study of School Evaluation, etc.;
7. Consider comments from professional education associations;
8. Consider comments from tribal and school district educators;
9. Consider recommendations from the Montana Advisory Council for Indian Education; and
10. Involve the Montana public.

Pursuant to Article X Sect 1(2) of the Constitution of the state of Montana and statutes §20-1-501 and §20-9-309 2(c) MCA, the implementation of these standards must incorporate the distinct and unique cultural heritage of Montana American Indians.

Components of the Communication Arts Content Standards Framework

The Communication Arts Content Standards Framework is a set of agreements, rationales, and rules that provides the foundation for standard-based communication arts education in Montana. This framework is the blueprint for further development of key components, such as Essential Learning Expectations, Performance Rubrics, and curriculum. The content standards framework contains:

- K-12 content standards,
- rationale for each content standard,
- benchmarks at the end of grade 4, end of grade 8, and upon graduation,
- performance descriptors at the levels of novice, nearing proficiency, proficient and advanced, and
- works cited.

In order to use this framework effectively, it is essential to understand the distinctions between and intended purpose of its various components.

Content Standards: The five communication arts content standards indicate what all students should know, understand, and be able to do in communication arts. Their purpose is to guide the communication arts curriculum and to communicate the breadth of the skills to be taught to all students. A district's curriculum should be designed so that learning encompasses all five standards.

Rationales: Outlines the fundamental reasons for each of the content standards and provides the basis for the knowledge and skills included in the benchmarks.

Benchmarks: The benchmarks define expectations for students' scientific knowledge and skills along a developmental continuum. They define expectations for proficient students at the end of grade 4, end of grade 8, and upon graduation. Their purpose is to state clearly and specifically what the students should know and be able to do within each content standard. A district's curriculum should include the entire progression of knowledge contained in the benchmarks.

Performance Descriptors: Performance descriptors define how well students apply the knowledge and skills they have acquired. They gauge the level to which benchmarks have been attained in terms of range, frequency, facility, depth, creativity and quality. Achievement of curricular goals is assessed by the performance descriptors.

Preface to the Communication Arts Content Standards

The Communication Arts Standards are foundational to success. Language is what sets humankind apart from other species, so it is no surprise that mastery of language skills in the broadest sense opens the door to understanding our past, our current condition, and our future. The Communication Arts offer us tools for thinking, communicating, learning, experiencing, exploring, remembering, collaborating, imagining, and fully participating in life. Mastery in Communication Arts is essential to school, careers, and a rich life.

Communication Arts are developmental and recursive. Most students come to school with literacy skills already emerging. The Communication Arts Standards are designed to acknowledge those emergent skills and introduce more sophisticated strategies and increasingly complex materials, gradually building students' independence and confidence as communicators. The same skills that appear in this standards document, as part of the expectations in the primary grades, will appear as part of the expectations upon graduation. The increasing levels of sophistication in the higher grades may very well come in depth, independence, or complexity of materials rather than in distinctly different skills or strategies.

Communication Arts are interdependent. While the Communication Arts Standards address discreet skills, strategies, and tasks in five distinct areas of communication (speaking and listening, reading, writing, media, and literature) it is important for parents, teachers and students to understand that the strands of Communication Arts are deeply intertwined. None of the strands should be viewed in isolation as each depends on the other for successful mastery. For example, when children learn to read, speaking and listening skills must be properly utilized for success to be achieved. Likewise, to appreciate and understand literature requires the skills of reading and often writing, discussing with others, and viewing media representations of the written texts. Students cannot communicate in writing if they cannot read. Media literacy requires many of the same skills that are required to access, understand and evaluate traditional print. Clearly, communication requires more than the discrete skills of any one of the Communication Arts strands; it requires the dynamic interaction of all strands working together to create meaning.

Communication Arts are interdisciplinary. Because learning is dependent on one or more of the Communication Arts Standards, all subject areas in school *work with* enhancing the strategies and skills that students use to successfully master the content of those subjects. In essence, all teachers are teachers of Communication Arts; all students are always engaged in practicing the skills of the Communication Arts. Likewise, the materials used in the Communication Arts classroom will explore the topics of all other curricular areas. It is important for students to recognize that the skills and strategies of Communication Arts must be applied in all classes and beyond the school walls in daily life.

Communication Arts are evolving. In the 21st century the technologies used in our daily lives, and the changing nature of communication, make the Communication Arts Standards even more important as a major part of our curriculum. Skills that were once acquired through the experiences of daily life must now be explicitly addressed in our classrooms. Rather than reinforcing the rules of formal standard written and spoken English, the English of our students' daily lives often offers alternative spellings, new rules of grammar, and shortcuts in punctuation or capitalization. Similarly, the dominating influence of the media, in its many forms, introduces new challenges for our students. The Communication Arts curriculum must help students bridge the gap between the formal and the informal, the old and the new. Language and images have power and that power must be understood and used wisely. Critically, the Communication Arts must address the safe, ethical and responsible use of communication if our democratic ideals are to be preserved.

Communication Arts Speaking and Listening Content Standard 1

Students know and understand the role of the communication process and demonstrate effective speaking and listening skills.

Rationale

The National Communication Association defines speaking as the “uniquely human act or process of transmitting and exchanging information, ideas, and emotions using oral language” while listening is the “process of receiving, constructing meaning from, and responding to spoken and/or nonverbal messages.”

Talking and hearing for most people are natural physiological processes; by contrast, speaking and listening are learned (National Communication Association). Oral communication is inherently collaborative in nature, and in a digital age it is imperative that students master the oral communication skills and strategies needed for success in personal, social and professional relations. To participate successfully in a global society, students must be prepared to communicate effectively and ethically with individuals from a wide variety of cultures and backgrounds.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
1.1 identify and describe the components of the communication process (sender/speaker, receiver/listener, message, medium/channel, feedback, interference/noise)	1.1 analyze and explain how the components of the communication process affect communication	1.1 analyze the complex relationship of the components of the communication process and evaluate their impact on effectiveness
1.2 identify and use verbal and nonverbal techniques to deliver oral messages	1.2 apply verbal and nonverbal delivery techniques to communicate effectively	1.2 adapt verbal and nonverbal delivery techniques to effectively enhance messages of varying lengths and formats

Communication Arts Speaking and Listening Content Standard 1

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
1.3 identify and use effective listening strategies	1.3 apply effective listening strategies to fit the purpose, situation, and setting of the communication	1.3 apply and evaluate effective listening strategies to fit the purpose, situation, and setting of the communication
1.4 choose topics and organize information to present effective oral messages	1.4 select and narrow topics for specific occasions and develop an appropriate introduction, body and conclusion to deliver speeches	1.4 select, test and refine topics for specific purposes and occasions, choose credible sources for supporting materials, effectively organize and deliver speeches
1.5 adapt communication to a variety of audiences, settings and purposes	1.5 adapt communication to a variety of formal and informal audiences, settings and purposes	1.5 adapt communication to a variety of public, group and interpersonal audiences, settings and purposes
1.6 use feedback to monitor speaking and listening effectiveness	1.6 use feedback to monitor and adjust speaking and listening effectiveness	1.6 use feedback to monitor, adjust, and evaluate speaking and listening effectiveness
1.7 use appropriate strategies to listen and respond to stories from the oral traditions of different cultures, including Montana American Indians	1.7 compare and contrast the verbal and nonverbal aspects of storytellers, the behaviors of audiences, and the settings and purposes of stories in the oral traditions of different cultures, including Montana American Indians	1.7 use appropriate strategies to listen to stories from different cultures; analyze how oral traditions, including Montana American Indian oral traditions, shape culture and influence individuals
1.8 display respectful behavior when speaking and listening	1.8 explain the importance of communicating ethically, including effectively referencing sources and displaying respectful communication to individuals and groups	1.8 analyze the legal and ethical issues associated with responsible communication

Communication Arts Reading Content Standard 2

Students read by applying foundational skills and strategies to comprehend, interpret, analyze, and evaluate texts.

Rationale

Reading is essential to learning in all content areas; therefore, all teachers are teachers of reading!

Reading involves both the application of foundational skills of decoding text and the construction of meaning from text. Key skills in decoding, phonemic awareness and phonics, are primarily developed in kindergarten through third grade, while fluency, vocabulary and comprehension, keys to constructing meaning, extend beyond the early grades.

Reading is a strategic problem solving process in which readers gain personal meaning as they interact with media forms in a culturally diverse society. Readers systematically inquire, assess, analyze, synthesize, and critically evaluate information. Constructing meaning from text is first accomplished with teacher guidance, moving students to become proficient and independent readers. During the reading process proficient readers continuously monitor their own reading as they select and apply the strategies most appropriate to the text and purpose of the task before them. Readers must be sensitive to diversity in language use, cultural patterns and dialects. Readers must also be aware of the influences of geography, social groupings and ethnicity, especially that of Montana American Indians.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
2.1 decode unknown words combining the elements of phonics, use of word parts, and context clues	2.1 apply knowledge of word and sentence structure, analysis of word parts and context to decode unknown words	2.1 select and apply knowledge of syntax clues, word origins, roots and affixes, and context to decode unknown words
2.2 develop and apply general and content specific vocabulary through the use of context clues, analysis of word parts, and reference sources	2.2 expand and apply general and specialized vocabulary through the use of context clues, analysis of word parts, and reference sources	2.2 expand and utilize general and specialized vocabulary through the use of context clues, analysis of word origins, and reference sources

Communication Arts Reading Content Standard 2

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
2.3 read sight words and materials fluently, applying word accuracy, phrasing, rate and expression	2.3 adjust fluency based on purpose and content	2.3 adjust fluency based on purpose, complexity, and technical content
2.4 use appropriate strategies (reread, read ahead, use decoding and context clues, recognize media features) to monitor comprehension and self correct when comprehension breaks down	2.4 identify when comprehension breaks down, analyze causes and self correct using effective strategies	2.4 recognize when comprehension breaks down, select strategy to self correct and evaluate effectiveness of the selected strategy
2.5 activate prior knowledge to make connections to text	2.5 activate prior knowledge to connect text to self, text to text, and text to world	2.5 recognize the need for background knowledge and research to enhance comprehension
2.6 make and revise predictions	2.6 make, revise, and explain predictions	2.6 make, revise, and justify predictions
2.7 generate and answer questions to clarify meaning by locating specific information in text	2.7 generate and answer literal, inferential, critical, and interpretive questions	2.7 generate and answer complex literal, inferential, evaluative, and interpretive questions
2.8 recall and explain a series of events or the sequence of information	2.8 recall and explain a series of events or the sequence of information to draw conclusions	2.8 recall and explain a series of events or the sequence of information to hypothesize and/or justify conclusions
2.9 identify main ideas and supporting details	2.9 summarize by stating main ideas and supporting details	2.9 summarize text by determining main idea and analyzing essential and non-essential supporting details
2.10 make inferences based on context clues and/or background knowledge	2.10 make and justify inferences based on context clues and/or background knowledge	2.10 make and justify complex inferences within and among multiple texts and/or forms of media
2.11 identify and use text features to enhance comprehension	2.11 analyze text features to enhance comprehension	2.11 analyze and evaluate relevant text features of multiple forms of media to enhance comprehension

Communication Arts Reading Content Standard 2

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
2.12 identify the organizational structure of a selection, including sequential, problem-solution and cause-effect	2.12 identify and explain the impact of the organizational structure of a selection, including order of importance, spatial, problem-solution, and cause-effect	2.12 evaluate and compare the effectiveness of organizational structures within and across complex texts
2.13 compare and contrast information to explain and explore relationships within and across texts	2.13 compare and contrast information to explain relationships and draw conclusions within and/or across texts	2.13 compare and contrast information, draw conclusions and synthesize ideas within and across texts to synthesize information and draw conclusions
2.14 recognize author's purpose, point of view, and language use in culturally diverse texts, including those by and about Montana American Indians	2.14 analyze author's purpose, point of view, language use, and credibility in culturally diverse texts, including those by and about Montana American Indians	2.14 critique author's purpose, point of view, bias, language use, and credibility to deepen understanding within and across culturally diverse texts, including those by and about Montana American Indians
2.15 set goals for reading progress	2.15 set and monitor goals and reading progress	2.15 set goals and evaluate reading progress

Communication Arts Literature Content Standard 3

Students select, interpret, and respond to a range of literature.

Rationale

Broadly defined, literature is artistically developed writing that makes careful use of language and captures the individual and/or collective experiences of a people. Literature, as considered in this standard, includes poetry, prose fiction, drama, literary non-fiction, and literature on film. It includes works that have stood the test of time as well as works recently published, works of our own culture, and works of cultures that learners may never experience in any other way. Literature provides us with a way of connecting with the past and dreaming about the future. Through the study of literature, students develop aesthetic insight into broad human perspectives and experiences. Literature allows us to consider universal issues of the human condition which transcend time, place and culture and connect us to humanity as a whole. To experience literature fully, it is essential that students learn to read literature both critically and reflectively with an awareness of the literary techniques and language devices that authors use to engage their readers and convey their messages. In understanding the elements of literature as well as the language of literature, students become life-long participants in the literary conversations that connect us to each other and allow us to more deeply understand our own human experiences.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
3.1 identify basic literary elements (setting, plot, problem/solution, character)	3.1 compare and contrast the literary elements (setting, plot, character, conflict, resolution, point of view, mood) across texts	3.1 analyze the ways in which authors develop literary elements (setting, plot, character, conflict, point of view, mood, tone, theme) to impact works and readers
3.2 explain how authors' choices of language and use of devices contribute to the meaning of literary works	3.2 analyze how authors' choices of words, uses of figurative language and stylistic devices contribute to the meaning of literary works	3.2 evaluate how diction, figurative language, imagery, detail, organization, and style shape meaning and impact works and readers
3.3 identify the characteristics of select literary genres	3.3 understand and define the characteristics of literary genres	3.3 analyze and define the characteristics of literary genres and evaluate the effect of genres on readers

Communication Arts Literature Content Standard 3

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
3.4 identify how culture and history are represented in literary works, including works of Montana American Indians	3.4 interpret how literature influences societies and, conversely, how factors such as history and culture influence literature, including works of Montana American Indians	3.4 evaluate how literature reflects a society, including literature by and about Montana American Indians
3.5 identify similarities and differences between personal experiences and literary works, including the works of Montana American Indians	3.5 compare and contrast a variety of perspectives among culturally diverse literary works, including the works of Montana American Indians	3.5 analyze diverse literature to compare common human experiences among time periods, literary movements, places, and cultures, including Montana American Indians
3.6 express and justify personal responses to literature	3.6 express personal ideas and feelings generated as a result of engaging with literature and offer justification	3.6 create and support critical and emotive responses to ideas and feelings generated as a result of engaging with literature

Communication Arts Media Literacy Content Standard 4

Students effectively evaluate and create media messages.

Rationale

Media Literacy is the ability to recognize, evaluate, and apply the techniques and technologies (Media Awareness Network) of the “media forms of the day.” (Ohler) This involves skills in “critically analyzing media messages, recognizing the role that audience plays in making meaning from those messages” and creating media messages for an audience. (Media Awareness Network) “Media form influences media content.” (Center for Media Literacy) Each medium has different characteristics, strengths, and a unique “language” of construction. (National Association for Media Literacy Education) In order for students to be effective consumers of media messages, they need to have a practical understanding of the advantages and limitations inherent in the techniques and technologies involved in creating those messages.

Students need a comprehensive understanding of digital citizenship and its ramifications in order to communicate effectively and securely in a multicultural, networked world. (Ohler). “Media Literacy takes as its field all media including but not limited to—TV, radio, film, print, music, the Internet, video games and even less obvious forms like fashion, children's toys and dolls, or T-Shirts.” (Media Awareness Network) Media literate people can both individually and collaboratively create effective media messages, demonstrating an understanding as to the strengths and limitations of each medium. Through the processes of designing, producing, and publishing articulate, meaningful, navigable media, students become better producers and consumers of media messages. (Ohler)

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
4.1 recognize that media messages are constructed using specific techniques for specific purposes (e.g., entertain, persuade, inform)	4.1 interpret and differentiate how techniques and technologies impact media messages	4.1 evaluate how techniques and technologies influence the meaning and effectiveness of the media messages
4.2 identify the sources of media messages	4.2 analyze the credibility of the sources of media messages	4.2 evaluate the credibility of the sources of media messages
4.3 identify fact, fiction and opinion in various media messages, including messages about Montana American Indians	4.3 analyze the purpose of and recognize the effects of fact, fiction, opinion, bias and stereotypes in media messages on diverse groups of people, including Montana American Indians	4.3 evaluate the impact of fact, opinion, bias and stereotypes in media messages about diverse groups of people, including Montana American Indians

Communication Arts Media Literacy Content Standard 4

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
4.4 recognize the norms, rules, laws and etiquette that govern the use and creation of media messages	4.4 apply appropriate norms, rules, laws and etiquette in the use and creation of media messages	4.4 apply knowledge and evaluate the impact of norms, rules, laws and etiquette in the use and creation of media messages
4.5 recognize consequences to self and others when using and creating media messages	4.5 analyze the inherent consequences to self and others in the use and creation of media messages	4.5 evaluate the inherent consequences to individuals and societies in the use and creation of media messages
4.6 create a media message for specific audiences and purposes (e.g., inform, entertain, or persuade)	4.6 create and analyze media messages for specific audiences and purposes	4.6 create and evaluate media messages for a variety of audiences and purposes
4.7 recognize that media messages embed values and influences individuals, cultures and societies	4.7 identify how media messages embed values and influence individuals, cultures and societies	4.7 analyze the embedded values and evaluate media's role in shaping perceptions of reality for individuals, cultures, and societies

Communication Arts Writing Content Standard 5

Students will write to communicate effectively for a variety of purposes and audiences.

Rationale

Never have writers been more in evidence in daily life than they are now. Whether it is in the form of cell phone text messages, instant messages, blogs, e-mails, personal network postings or any of the more traditional forms of writing, there is evidence readily available to show that we are taking ample advantage of our impulses to write. As the forms of writing and methods of publication increase rapidly in our digital world, the skills of writing take on new value.

Practice with many different forms and styles of writing using a variety of media to communicate in writing is essential for students to become proficient writers. Successful writers choose and adapt strategies to best fit the topic, purpose and audience of the writing task. Effective writers are adept at knowing when to collaborate and seek feedback to polish and clarify their written communication during the writing process. Proficient writers also understand the ethical and legal issues of using information gained from others in their writing. They follow the protocols of the medium and write in safe and responsible ways.

Benchmarks

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
5.1 identify and demonstrate the steps used in the writing process: prewriting, planning, drafting, revising, editing, publishing	5.1 apply the steps of the writing process in a variety of written work	5.1 apply the steps of the writing process to develop, evaluate, and refine writing
5.2 select appropriate topics and generate topic sentences that indicate the writer's purpose for writing	5.2 select appropriate topics and generate thesis statements that indicate the writer's purpose for writing	5.2 independently select topics and generate complex thesis statements that indicate the writer's purpose for writing
5.3 generate and develop main ideas using supporting details	5.3 generate and develop main ideas using a variety of relevant supporting details	5.3 generate, develop and elaborate upon main ideas using relevant and specific supporting details
5.4 organize writing using a logical progression of ideas	5.4 organize writing using transitions and a logical progression of ideas	5.4 organize writing using a logical progression of ideas and transitions to effectively convey the relationships among them


Communication Arts Writing Content Standard 5

A proficient student will:

End of Grade 4	End of Grade 8	Upon Graduation
5.5 demonstrate awareness of language choices and their impact on writing through use of voice, sentence fluency, and word choice when writing	5.5 demonstrate knowledge of language choices and their impact on writing through control of voice, strong sentence fluency, and effective word choice	5.5 demonstrate knowledge of language choices and their impact on writing by showing purposeful control of voice, sentence fluency, and word choice
5.6 identify and practice conventions of standard written English (e.g., usage, punctuation, spelling) appropriate purpose, audience, and form	5.6 apply conventions of standard written English (e.g., usage, punctuation, spelling) appropriate for purpose, audience, and form	5.6 apply conventions of standard written English (e.g., usage, punctuation, spelling) appropriate for purpose, audience, and form
5.7 identify the purpose, audience, and format in one's own writing	5.7 identify and describe the purpose, audience, format, and tone in one's own writing	5.7 articulate and evaluate the purpose and audience, and select and use appropriate format, and tone in one's own writing
5.8 identify and write using different writing forms and genres	5.8 analyze the characteristics of different writing forms and genres and write in a variety of forms and genres	5.8 write using a variety of forms and genres and evaluate one's own and others' writing for effectiveness of form and genre
5.9 demonstrate ability to maintain topical focus throughout written work	5.9 compose written works demonstrating ability to sustain focus throughout a variety of forms and genres	5.9 compose a variety of written works utilizing complex ideas and detailed support that demonstrate the ability to maintain a sustained focus
5.10 use information problem solving process to research a topic	5.10 use information problem solving process to collect and utilize information to research a topic	5.10 use information problem solving process to effectively synthesize information to research a topic
5.11 identify the owner of ideas and information, with respect to all forms of information (e.g., oral resources), including Montana American Indians	5.11 obtain and use information legally and respectfully, and appropriately credit ideas and word of others, including those of Montana American Indians	5.11 follow copyright laws and fair use guidelines when using the intellectual property of others, including that of Montana American Indians, and appropriately credit ideas and words of others
5.12 set goals for writing progress	5.12 set goals, seek feedback and monitor writing progress	5.12 set goals, seek feedback and evaluate writing progress


Montana K-12 Communication Arts Content Standards Framework

5.13 recognize and use writing as a means of clarifying thinking and reflecting	5.13 use writing as a means of clarifying thought and reflecting on learning	5.13 select and use forms of writing to clarify thought, to extend learning, and to reflect on experience
--	---	--

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	<p>Montana K-12 Communication Arts Performance Descriptors A Profile of Four Levels</p>
---	--

The Communication Arts Performance Descriptors define how well students' perform at four performance levels: advanced, proficient, nearing proficiency, and novice. These profiles describe students as they apply the knowledge and skills defined in the benchmarks for End of Grade 4, End of Grade 8, and Upon Graduation.

Advanced	Proficient	Nearing Proficiency	Novice
<p>A student at the advanced level in Communication Arts demonstrates superior performance. He/She demonstrates highly developed knowledge and skills that reflect a coherent understanding of the subject. He/she can transfer learning to other situations, can apply knowledge to question, reason, and solve problems, and employs metacognitive skills in the following grade-level benchmarks.</p>	<p>A student at the proficient level in Communication Arts demonstrates solid academic performance by consistently meeting grade level expectations. He/she demonstrates the knowledge and skills required to be successful in the following grade-level benchmarks.</p>	<p>A student at the nearing proficiency level in Communication Arts demonstrates partial mastery of the prerequisite knowledge and skills fundamental for proficiency. He/she has some of the required foundational skills and, at low level of complexity and difficulty, is able to demonstrate the following grade-level benchmarks.</p>	<p>A student at the novice level in Communication Arts is beginning to attain prerequisite knowledge and skills that are fundamental for proficiency. He/she demonstrates a low level of understanding and with teacher guidance is beginning to attain a foundation in the following grade-level benchmarks.</p>

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	<p>Montana K-12 Communication Arts Performance Descriptors Benchmarks At-A-Glance</p>
---	--

Montana K-12 Speaking and Listening Performance Descriptors		
End of Grade 4	End of Grade 8	Upon Graduation
1.1 understands components of the communication process;	1.1 analyzes components of the communication process;	1.1 evaluates the impact of components of the communication;
1.2 uses elements of effective speaking;	1.2 applies elements of effective speaking;	1.2 evaluates elements of effective speaking;
1.3 uses elements of effective listening;	1.3 applies elements of effective listening;	1.3 evaluates elements of effective listening;
1.4 selects topics and organizes information;	1.4 selects specific topic, develops introduction, body, and conclusion;	1.4 refines topic, uses credible sources, and proper organization;
1.5 adapts to audience, setting and purpose;	1.5 adapts to formal and informal audiences, settings and purposes;	1.5 adapts to public, group and interpersonal audiences, settings and purposes;
1.6 uses feedback to self-monitor;	1.6 uses feedback to monitor and adjust;	1.6 uses feedback to monitor, adjust, and evaluate;
1.7 listens and responds to cultural stories;	1.7 compares and contrasts speaking and listening; strategies in cultural stories;	1.7 analyzes the influence of oral traditions in various cultures;
1.8 displays respect in speaking and listening.	1.8 displays respectful communication and orally references sources.	1.8 analyzes and evaluates the impact of ethical and responsible communication.

Montana K-12 Communication Arts Content Standards Framework

Montana K-12 Reading Performance Descriptors		
End of Grade 4	End of Grade 8	Upon Graduation
2.1 decodes words;	2.1 decodes words;	2.1 decodes words;
2.2 develops vocabulary;	2.2 expands general and specialized vocabulary;	2.2 expands and utilizes general and specialized vocabulary;
2.3 reads sight words;	2.3 adjusts fluency;	2.3 adjusts fluency;
2.4 uses strategies to self-correct;	2.4 identifies when comprehension breaks down, self-correct;	2.4 recognizes when comprehension breaks down, self-correct;
2.5 makes connections to text;	2.5 connects text to self, text to text, text to world;	2.5 recognizes background knowledge increases comprehension;
2.6 makes predictions;	2.6 revises and explains predictions;	2.6 justifies predictions;
2.7 generates and answers questions;	2.7 generates and answers literal and higher-order questions;	2.7 generates and answers complex literal and higher level questions;
2.8 explains a series of events;	2.8 explains a series of events to draw conclusions;	2.8 explains a series of events to hypothesize/justify conclusions;
2.9 identifies main ideas and supporting details;	2.9 summarizes main ideas and details;	2.9 summarizes by distinguishing main ideas;
2.10 makes inferences;	2.10 makes and justifies inferences;	2.10 makes and justifies complex inferences;
2.11 identifies and uses text features;	2.11 analyzes text features;	2.11 analyzes and evaluates relevant text features;
2.12 compares and contrasts information;	2.12 compares and contrasts information to draw a conclusion;	2.12 compares and contrasts across multiple texts;
2.13 identifies cause and effect;	2.13 explains cause and effect;	2.13 explains cause and effect across multiple texts;
2.14 recognizes author's purpose, point of view and language;	2.14 analyzes author's purpose and credibility and language use;	2.14 critiques author's purpose, points of view, language use and credibility;
2.15 sets goals.	2.15 sets and monitors goal	2.15 sets and evaluates goals.

Montana K-12 Communication Arts Content Standards Framework


Montana K-12 Literature Performance Descriptors		
End of Grade 4	End of Grade 8	Upon Graduation
3.1 identifies literary elements;	3.1 compares and contrasts literary elements;	3.1 analyzes literary elements;
3.2 explains language use and literary devices;	3.2 analyzes language use and literary devices;	3.2 evaluates language use and literary devices;
3.3 identifies characteristics of genre;	3.3 defines characteristics of genre;	3.3 analyzes and evaluates characteristics of genre;
3.4 identifies culture and history;	3.4 interprets influences of culture, history, and literature;	3.4 evaluates influence of culture, history, and literature;
3.5 compares personal experiences with literature;	3.5 compares a variety of perspectives in literature;	3.5 analyzes human experience in literature;
3.6 justifies personal responses to literature.	3.6 justifies personal ideas and feelings in response to literature.	3.6 supports critical and emotive responses to literature.

Montana K-12 Communication Arts Content Standards Framework

Montana K-12 Media Literacy Performance Descriptors		
End of Grade 4	End of Grade 8	Upon Graduation
4.1 recognizes techniques and purposes used in media messages;	4.1 differentiates how techniques and technologies impact media messages;	4.1 evaluates techniques and technologies impact on meaning and effectiveness of media messages;
4.2 identifies sources of media messages;	4.2 analyzes credibility of media message sources;	4.2 evaluates credibility of media message sources;
4.3 identifies fact, fiction and opinion in media messages;	4.3 analyzes purpose of fact, fiction, opinion, bias and stereotypes in media messages;	4.3 evaluates impact of fact, fiction, opinion, bias and stereotypes in media messages;
4.4 recognizes proper use and creation of media messages;	4.4 applies proper use and creation of media messages;	4.4 applies and evaluates impact of proper use and creation of media messages;
4.5 recognizes guidelines for using and creating media messages;	4.5 applies guidelines for using and creating media messages;	4.5 applies and evaluates effect of guidelines when using and creating media messages;
4.6 recognizes consequences when using and creating media messages;	4.6 analyzes consequences when using and creating media messages;	4.6 evaluates consequences when using and creating media messages;
4.7 creates media messages;	4.7 creates and analyzes media messages;	4.7 creates and evaluates media messages;
4.8 recognizes that media embeds values and influences.	4.8 identifies how media embeds values and influences.	4.8 analyzes and evaluates how media embeds values and shapes perceptions.

Montana K-12 Communication Arts Content Standards Framework

Montana K-12 Writing Performance Descriptors		
End of Grade 4	End of Grade 8	Upon Graduation
5.1 identifies and uses the steps of the writing process;	5.1 applies the steps of the writing process;	5.1 applies the steps of the writing process, evaluates and refines writing;
5.2 selects topic and generates topic sentences;	5.2 selects topics and generates thesis;	5.2 selects topics and generates complex thesis;
5.3 develops main idea;	5.3 develops main idea using a variety of details;	5.3 develops and elaborates upon main idea using a variety of details;
5.4 organizes writing;	5.4 organizes writing using a progression of ideas;	5.4 organizes writing using transitions and a progression of ideas;
5.5 identifies language choice and its impact;	5.5 demonstrates knowledge of language choice and its impact;	5.5 demonstrates control of language choice;
5.6 identifies and practices conventions;	5.6 applies conventions;	5.6 applies conventions;
5.7 identify purpose, audience, and format;	5.7 identify and describe purpose, audience, format, style, and tone;	5.7 evaluate the purpose and audience; select and use format, style, and tone;
5.8 identifies writing forms and genres;	5.8 analyzes characteristics of writing forms and genres;	5.8 uses a variety of forms and genres and evaluate effectiveness of form and genre;
5.9 maintains focus of topic in writing;	5.9 sustains focus of topic in writing;	5.9 maintains focus of topic in written work with complex ideas;
5.10 uses information problem-solving process;	5.10 uses information problem-solving process;	5.10 conducts research using information problem-solving process;
5.11 uses information legally;	5.11 uses information legally;	5.11 follows copyright laws;
5.12 sets goals for writing;	5.12 sets goals and monitors writing;	5.12 set goals and evaluates writing;
5.13 recognizes and uses writing to think and reflect.	5.13 uses writing to think and learn.	5.13 selects and uses writing to think and learn.

 <p>Montana Office of Public Instruction Denise Juneau, State Superintendent opi.mt.gov</p>	<p>Montana K-12 Communication Arts Content Standards Works Cited</p>
---	---

"Definitions." *National Association for Media Literacy Education*. 18 Jan 2009
<<http://namle.net/media-literacy/definitions>>.

K-12 Speaking, Listening, and Media Literacy Standards and Competency Statements.
National Communication Association. Washington, D.C., 1998.

Ohler, Jason. "Orchestrating the Media Collage." *Educational Leadership*. March 2009: 8-13. <http://www.ascd.org/publications/educational_leadership/mar09/vol66/num06/Orchestrating_the_Media_Collage.aspx>.

Thoman, Elizabeth, and Tessa Jolls. *Literacy for the 21st Century: An Overview & Orientation Guide To Media Literacy Education*. Los Angeles, CA: Center for Media Literacy. <<http://www.medialit.org/pdf/mlf/01/MLKorientation.pdf>>.

Walsh, Bill. "Expanding the Definition of Media Literacy." *Media Awareness Network*. <http://www.mediaawareness.ca/english/resources/educational/teaching_backgrounds/media_literacy/expanding_definition.cfm>.

Montana K-12 Arts Content Standards Framework



opi.mt.gov

Adopted by the Montana Board of Public Education
October 2000

MONTANA STANDARDS FOR ARTS

Arts have intrinsic value. They cultivate the whole child, building many kinds of literacy while developing intuition, reasoning, creativity, imagination, and dexterity into diverse forms of expression and communication. The Arts enable students to make decisions and seek multiple solutions. They improve perception, reflection, and creative thought. They advance higher order thinking skills of analysis, synthesis and evaluation. The Arts provide powerful tools for understanding human experiences and cultures—past, present and future.

Arts education engages students in a creative process that helps them develop the self-motivation, discipline, cooperation and self-esteem necessary for success in life.

The Arts consists of Dance, Music, Theatre and Visual Arts. The content and performance standards for the Arts describe what all Montana students should know and be able to do in the Arts. Although literary arts are generally considered a part of the Arts, standards for the literary arts are integrated throughout the Communication Arts.

Content Standards indicate what all students should know, understand and be able to do in a specific content area.

Benchmarks define our expectations for students' knowledge, skills and abilities along a developmental continuum in each content area. That continuum is focused at three points—at the end of grade 4, the end of grade 8 and grade 12.

Content Standard 1—Students create, perform/exhibit, and respond in the Arts.

Content Standard 2—Students apply and describe the concepts, structures, and processes in the Arts.

Content Standard 3—Students develop and refine arts skills and techniques to express ideas, pose and solve problems, and discover meaning.

Content Standard 4—Students analyze characteristics and merits of their work and the work of others.

Content Standard 5—Students understand the role of the Arts in society, diverse cultures, and historical periods.

Content Standard 6—Students make connections among the Arts, other subject areas, life, and work.

Arts Content Standard 1

Students create, perform/exhibit, and respond in the Arts.

Rationale

Students understand and express themselves in depth through an art form by:

- *generating original art;*
- *participating, re-creating, and exhibiting; and*
- *reacting and placing value.*

As a result, they arrive at their own knowledge and beliefs for making personal and artistic decisions.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. identify their own ideas and images based on themes, symbols, events and personal experiences.2. use a variety of materials and sources to experiment with an art form.3. present their own work and works of others.4. collaborate with others in the creative process.5. describe how a variety of materials, techniques and processes cause different responses.	<ol style="list-style-type: none">1. create a work from their own ideas and images based on themes, symbols, events and personal experiences.2. select a variety of materials and sources to demonstrate a specific art form.3. prepare and/or revise works for presentation.4. collaborate with others to make artistic choices.5. describe and analyze artistic choices in their own work and works of others.	<ol style="list-style-type: none">1. conceive and create works of art.2. demonstrate imagination and technical skill in a minimum of one art form using traditional and nontraditional resources.3. select or adapt the elements of a presentational style.4. apply artistic discipline (e.g., concentration and focus) to complete a collaborative work.5. articulate meaning by describing and analyzing artistic choices in their own work and works of others.

Arts Content Standard 2

Students apply and describe the concepts, structures, and processes in the Arts.

Rationale

The ability to use and share knowledge is fundamental to human experience. The Arts: Dance, Music, Theatre, Visual Arts, provide many of the tools for students to successfully interact with their world.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<p>1. COMPOSITION— Dance: apply the elements of space (shape, level, path in space, pattern, form), time (duration, rhythm), and energy (movement quality) to compose dance phrases. Music: apply the elements of rhythm, melody, harmony, timbre/tone color, and form. Theatre: apply the elements of plot, character and setting. Visual Arts: apply the elements of line, shape, form, color, space, value, and texture to compose works of art and the principals of design-pattern, balance, contrast, rhythm, proportion, economy, movement, dominance.</p> <p>2. TECHNIQUES— Dance: identify and apply the techniques of body awareness (e.g., control, flexibility, dynamics, expression, musicality) in class and performance. Music: identify and apply the techniques of expressive devices, dynamics, tempo, phrasing, accompaniment, interpretation and improvisation. Theatre: identify and apply techniques to develop scenarios, direct and act. Visual Arts: identify and apply the techniques common to drawing, painting, sculpture, design, printmaking, and indigenous/traditional arts.</p> <p>3. MEDIUM— Dance: demonstrate the human body in motion. Music: perform vocal and/or instrumental solos, or in ensembles. Theatre: perform in ensemble (e.g., live, film, video productions). Visual Arts: select a course of action using two-dimensional processes (e.g., paint-</p>	<p>1. COMPOSITION— Dance: apply the elements of space (shape, level, path in space, pattern, form), time (duration, rhythm), and energy (movement quality) to compose dances. Music: apply the elements of rhythm, melody, harmony, timbre/tone color, and form. Theatre: apply the elements of plot, character, setting and mood. Visual Arts: apply the elements of line, shape, form, color, space, value, and texture to compose works of art and the principals of design-pattern, balance, contrast, rhythm, proportion, economy, movement, dominance.</p> <p>2. TECHNIQUES— Dance: apply the techniques of body awareness (e.g., control, flexibility, dynamics, expression, musicality) in class and performance. Music: apply the techniques of expressive devices, dynamics, tempo, phrasing, accompaniment, interpretation, and improvisation. Theatre: apply techniques to write, direct, act, and design. Visual Arts: apply knowledge of techniques to create works (e.g., painting, drawing, printmaking, photography, computer arts, graphic design, sculpture, and indigenous/traditional arts).</p> <p>3. MEDIUM— Dance: demonstrate the human body in motion. Music: perform vocal and/or instrumental solos, or in ensembles. Theatre: perform solo and in ensemble (e.g., mime, live, film, video productions). Visual Arts: select a course of action using two-dimensional processes (e.g., painting,</p>	<p>1. COMPOSITION— Dance: apply the elements of space (shape, level, path in space, pattern, form), time (duration, rhythm), and energy (movement quality) to compose dances. Music: apply the elements of rhythm, melody, harmony, timbre/tone color, and form. Theatre: apply the elements of character and plot as exposition, action, climax, and resolution. Visual Arts: apply the elements of line, shape, form, color, space, value, and texture to compose works of art and the principals of design-pattern, balance, contrast, rhythm, proportion, economy, movement, dominance.</p> <p>2. TECHNIQUES— Dance: apply the techniques of body awareness (e.g., control, flexibility, dynamics, expression, musicality) in class and performance. Music: apply the techniques of expressive devices, dynamics, tempo, phrasing, accompaniment, interpretation, and improvisation. Theatre: apply techniques to write, direct, act, design and produce. Visual Arts: apply techniques to create works (e.g., painting, drawing, printmaking, photography, computer arts, graphic design, sculpture, and indigenous/traditional arts).</p> <p>3. MEDIUM— Dance: demonstrate the human body in motion. Music: perform vocal and/or instrumental solos, or in ensembles. Theatre: perform solo and in ensemble (e.g., mime, live, film, video productions). Visual Arts: select a course of action using two-dimensional processes (e.g., painting,</p>

Arts Content Standard 2 (cont.)

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<p>ing, drawing, printmaking) and the three-dimensional processes (e.g., sculpture and indigenous/traditional arts).</p> <p>4. FUNCTION— Dance: identify examples of social, theatrical, and traditional dance. Music: identify examples of music (e.g., ceremonial, celebration, concerts, theatre, dance, film, social, community, entertainment). Theatre: perform in classroom or school programs/productions. Visual Arts: identify examples of cultural, political, communication, expressive, commercial, and environmental visual arts.</p> <p>5. STYLE— Dance: identify examples of folk, popular, and contemporary (e.g., ballet, jazz, modern, tap) dance. Music: identify examples of music (e.g., folk, jazz, ethnic, popular, classical, time period). Theatre: identify and perform examples of theatre (e.g., comedy, melodrama). Visual Arts: identify examples of historical, contemporary, and traditional visual arts, including American Indian art.</p> <p>6. PRESENTATION— Dance: show dance composition with peers, emphasizing focus and concentration. Music: participate in performances. Theatre: demonstrate storytelling and creative dramatics. Visual Arts: exhibit craftsmanship, completion, and develop a body of work.</p>	<p>drawing, printmaking, photography, computer arts) and the three-dimensional processes (e.g., sculpture, indigenous/traditional arts).</p> <p>4. FUNCTION— Dance: identify examples of social, theatrical, and traditional dance. Music: perform examples of music (e.g., ceremonial, celebration, concerts, theatre, dance, film, social, community, entertainment). Theatre: perform in classroom or school programs/productions. Visual Arts: demonstrate and compare examples of cultural, political, communication, expressive, commercial, and environmental visual arts.</p> <p>5. STYLE— Dance: identify examples of folk, popular, historical, and contemporary (e.g., ballet, jazz, modern, tap) dance. Music: perform examples of music (e.g., folk, jazz, ethnic, popular, classical, time period). Theatre: perform examples of theatre (e.g., comedy, melodrama, plays from historical periods). Visual Arts: demonstrate examples of historical, contemporary, and traditional visual arts, including American Indian art.</p> <p>6. PRESENTATION— Dance: rehearse, perform, and critique dance. Music: rehearse, perform, and critique musical performances. Theatre: rehearse, perform, and critique storytelling and improvisation. Visual Arts: exhibit craftsmanship, completion, and develop a body of work.</p>	<p>drawing, printmaking, photography, computer arts, graphic design) and three-dimensional processes (e.g., sculpture, indigenous/traditional arts).</p> <p>4. FUNCTION— Dance: identify examples of social, theatrical, and traditional dance. Music: perform and compare examples of music (e.g., ceremonial, celebration, concerts, theatre, dance, film, social, community, entertainment). Theatre: perform in classroom or school programs/productions. Visual Arts: demonstrate and compare examples of cultural, political, communication, expressive, commercial, and environmental visual arts.</p> <p>5. STYLE— Dance: identify examples of folk, popular, historical, and contemporary (e.g., ballet, jazz, modern, tap) dance. Music: perform examples of music (e.g., folk, jazz, ethnic, popular, classical, time period). Theatre: perform examples of theatre (e.g., comedy, tragedy, melodrama plays from historical periods). Visual Arts: demonstrate examples of historical, contemporary, and traditional visual arts, including American Indian art.</p> <p>6. PRESENTATION— Dance: rehearse, perform, and critique dance. Music: rehearse, perform, and critique musical performances. Theatre: rehearse, perform, and critique improvisation and performances. Visual Arts: exhibit craftsmanship, completion, and develop a body of work.</p>

Arts Content Standard 3

Students develop and refine arts skills and techniques to express ideas, pose and solve problems, and discover meaning.

Rationale

Artistic expression is a critical form of self-expression and communication requiring specific skills, knowledge, and techniques. In the Arts there is no one correct answer. Students must exercise judgment. This helps to develop the ability to weigh the benefits among alternative courses of action. This process yields multiple rather than singular solutions.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none"> use art materials, techniques, technologies, and processes to create general responses. communicate meaning through the art forms from selected subject matter. explore potential solutions to a given problem through the Arts. use technical skills. Dance—perform movements and rhythm patterns. Music—sing and play music using dynamics, phrasing, and interpretation. Theatre—use mind, voice, and body to create characters and tell stories. Visual Arts—create works of art with content that is consistent with media possibilities. identify and use an appropriate symbol system. Dance—use dance elements (space, time, energy) to discuss movement and produce movements demonstrated and/or described in words. Music—use standard symbols to identify meter, rhythm, pitch, and dynamics. Theatre—recognize and use stage direction. Visual Arts—recognize and use symbol language appropriate to media used to create works of art. 	<ol style="list-style-type: none"> use art materials, techniques, technologies, and processes to create specific responses. communicate intended meaning based on their own ideas and concepts from other sources. use improvisation/experimentation to determine solutions. use technical skills. Dance—perform movements and rhythm patterns with control and expression. Music—use accepted performance and expressive techniques (e.g., breath control, posture) while singing and playing music in small and large ensembles. Theatre—use scenery, properties, sound, costume, and make-up to communicate locale and mood. Visual Arts—experiment and practice with a variety of media to achieve clarity of expression. understand and use symbol systems. Dance—use dance elements (space, time, energy) to discuss movement and produce movements demonstrated and/or described in words. Music—identify and define standard notation symbols including pitch, rhythm, dynamics, tempo, articulation, and expression. Theatre—understand and apply stage direction and ground plans. Visual Arts—examine the breadth and depth of possible responses presented by media and media techniques. 	<ol style="list-style-type: none"> use art materials, techniques, technologies, and processes to create specific products and responses to ideas. communicate intended meaning through the interpretation of a subject. use improvisation/experimentation to predict potential solutions to problems and pose new problems. use technical skills. Dance—perform movements and rhythm patterns with appropriate range of dynamics and expression. Music—sing or play music with expression and technical accuracy exhibiting a large and varied repertoire of vocal or instrumental literature. Theatre—use scenery, properties, sound, costume, make-up, and lighting to communicate locale and mood. Visual Arts—explore and practice skills to enhance communication with consistency. understand and use symbol systems. Dance—use dance elements (space, time, energy) to discuss movement and produce movements demonstrated and/or described in words. Music—read and use standard and non-standard notation symbols through participation in small and large ensembles. Theatre—understand and apply stage direction and ground plans. Visual Arts—understand and apply appropriate symbol language to maximize expression in a specific media.

Arts Content Standard 4

Students analyze characteristics and merits of their work and the work of others.

Rationale

Reflecting on the Arts heightens critical thinking and qualitative judgment. Students practice and use higher order thinking skills of analysis, synthesis, and evaluation to understand works of art.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. use vocabulary of the discipline to describe a variety of works of art.2. describe personal works to others.3. devise criteria for evaluation.4. recognize a variety of different responses to specific works of art.	<ol style="list-style-type: none">1. evaluate the quality and effectiveness of their own and other art works by applying specific criteria appropriate to the style and offer constructive suggestions for improvement.2. describe the influence of personal experience on the interpretation of works of art.3. develop and apply criteria for evaluating quality and effectiveness of the work of art.4. describe and compare a variety of individual responses to works of art.	<ol style="list-style-type: none">1. evaluate an art work by comparing and contrasting it to similar or exemplary works of art.2. compare and contrast how meaning is communicated in two or more of the students' own works and/or works of others.3. refine specific criteria for making informed critical evaluation of the quality and effectiveness of a work of art.4. analyze various interpretations as a means for understanding/evaluating works of art.

Arts Content Standard 5

Students understand the role of the Arts in society, diverse cultures, and historical periods.

Rationale

It is important for students to be knowledgeable about the nature, value, and meaning of the Arts in the context of their own humanity with respect to community, environment, and culture, including the distinct and unique cultural heritage of Montana's American Indians.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. recognize ways in which the Arts have both a historical and distinctive relationship to various cultures (e.g., American Indian) and media of expression.2. identify and describe specific works of art belonging to particular cultures, times and places.3. recognize various reasons for creating works of art.4. recognize common emotions, experiences, and expressions in art.5. demonstrate appropriate audience behavior for the context and style of art presented.6. explore their own culture as reflected through the Arts.	<ol style="list-style-type: none">1. demonstrate how history/culture and the Arts influence each other.2. identify, describe, and analyze specific works of art as belonging to particular cultures, times and places in the context in which they were created.3. compare various reasons for creating works of art.4. describe how people's emotions and experiences influence the development of specific art works.5. demonstrate appropriate audience behavior for the context and style of art presented.6. determine the connection of a work of art to societal and cultural change or preservation, including American Indian culture and art.	<ol style="list-style-type: none">1. identify and describe the role of the artist in cultures and societies.2. identify, describe and analyze specific works of art as belonging to particular cultures, times and places in the context in which they were created.3. identify intentions of those creating art works, explore the implications of various purposes and justify analysis.4. analyze contemporary and historic meanings and emotions in specific art works through cultural and aesthetic inquiry.5. demonstrate appropriate audience behavior for the context and style of art presented.6. investigate a variety of artworks from resources in the community and analyze and communicate cultural and historical context.

Arts Content Standard 6

Students make connections among the Arts, other subject areas, life, and work.

Rationale

Arts are part of everyone's daily experience. The Arts reflect the culture that produces them. As students work in the Arts, it is important to understand how the Arts disciplines relate to one another, to other subjects, and to their life.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. identify similarities and differences in the meanings of common terms/elements used in the various Arts.2. identify interrelated elements among the Arts and other subject areas.3. identify the role of the Arts in the world of work.4. identify how art reflects life.	<ol style="list-style-type: none">1. compare and explain how the characteristic materials of each art (e.g., sound in music, visual stimuli in visual arts, movement in dance, human interrelationships in theatre) correlate to similar events, scenes, emotions, or ideas.2. utilize interrelated elements among the Arts and other subject areas.3. explore vocational and avocational opportunities in the Arts.4. identify how works of art reflect the environment in which they are created.	<ol style="list-style-type: none">1. explain how elements, processes (e.g., imagination, craftsmanship) and organizational principles are used in similar and distinctive ways.2. connect and analyze interrelated elements of the Arts and other subject areas.3. experience the elements of art careers in a professional setting.4. analyze how works of art reflect the environment in which they are created.

Arts Performance Standards: A Profile of Four Levels

The Arts Performance Standards describe students' knowledge, skills and abilities in the Arts content area on a continuum from kindergarten through grade twelve. These descriptions provide a picture or profile of student achievement at the four performance levels—advanced, proficient, nearing proficiency and novice.

<u>Advanced</u>	This level denotes superior performance.
<u>Proficient</u>	This level denotes solid academic performance for each benchmark. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.
<u>Nearing Proficiency</u>	This level denotes that the student has partial mastery or prerequisite knowledge and skills fundamental for proficient work at each benchmark.
<u>Novice</u>	This level denotes that the student is beginning to attain the prerequisite knowledge and skills that are fundamental for work at each benchmark.

Grade 4 Arts

Advanced A fourth-grade student at the advanced level in the Arts demonstrates superior performance. He/she:

- (a) independently creates, performs/exhibits in and responds through a minimum of one art form;
- (b) consistently applies, with confidence, the concepts, structures and processes in the four art forms of Dance, Music, Theatre, and Visual Arts;
- (c) uses a variety of skills and techniques to express ideas and poses and solves problems in the Arts;
- (d) independently practices responsible, safe and appropriate personal and group behavior in the Arts;
- (e) analyzes the characteristics and merits of their work and the works of others in the Arts;
- (f) consistently recognizes and respects the role of the Arts in his/her society, diverse cultures, and historical periods; and
- (g) consistently finds and shares multiple connections among the Arts, other subject areas and life.

Proficient A fourth-grade student at the proficient level in the Arts demonstrates solid academic performance. He/she:

- (a) demonstrates the ability to create, perform/exhibit and respond through a minimum of one art form;
- (b) applies a basic understanding of the concepts, structures and processes in the four art forms of Dance, Music, Theatre, and Visual Arts;
- (c) uses skills and techniques to express ideas and poses and solves problems in the Arts;
- (d) practices responsible, safe and appropriate personal and group behavior in the Arts;
- (e) communicates an understanding of the characteristics and merits of their work and the works of others in the Arts;
- (f) recognizes and respects the role of the Arts in his/her society, diverse cultures and historical periods; and
- (g) finds and communicates connections among the Arts, other subject areas, and life.

Nearing Proficiency A fourth-grade student at the nearing proficiency level demonstrates a partial mastery of prerequisite knowledge and skills fundamental for proficiency in the Arts. He/she:

- (a) creates, performs/exhibits in and responds with specific directions and assistance through a minimum of one art form in a limited way;
- (b) identifies, but has difficulty demonstrating concepts, structures and processes in the four art forms of Dance, Music, Theatre and Visual Arts;
- (c) identifies skills and techniques in the Arts and sometimes expresses ideas and poses and solves problems in the Arts;
- (d) sometimes practices responsible, safe and appropriate personal and group behavior in the Arts;
- (e) sometimes identifies and demonstrates the characteristics and merits of his/her work and the works of others in the Arts;
- (f) sometimes recognizes the role of the Arts in his/her society, diverse cultures, and historical periods; and
- (g) finds and shares limited connections among the Arts, other subject areas, and life.

Novice A fourth-grade student at the novice level is beginning to attain prerequisite knowledge and skills that are fundamental at each benchmark in the Arts. He/she:

- (a) has difficulty creating, performing/exhibiting in and responding through a minimum of one art form;
- (b) demonstrates a limited understanding of concepts, structures, and processes in the four art forms of Dance, Music, Theatre and Visual Arts;
- (c) identifies with assistance some of the skills and techniques but does not express ideas or pose or solve problems in the Arts;
- (d) has difficulty practicing responsible, safe and appropriate personal and group behavior in the Arts;
- (e) seldom identifies the characteristics and merits of his/her work or the works of others in the Arts;
- (f) has limited recognition of the role of the Arts in his/her society, diverse cultures, and historical periods; and
- (g) has difficulty finding connections among the Arts, other subject areas, and life.

Grade 8 Arts

Advanced An eighth-grade student at the advanced level in the Arts demonstrates superior performance. He/she:

- (a) effectively creates, performs/exhibits in and responds through more than one art form;
- (b) consistently applies with confidence concepts, structures and processes in the four art forms of Dance, Music, Theatre and Visual Arts;
- (c) applies a variety of skills and techniques to effectively express ideas and to pose and solve problems in the Arts;
- (d) independently practices responsible, safe and appropriate personal and group behavior in the Arts;
- (e) evaluates the characteristics and merits of his/her work and the works of others in the Arts ;
- (f) effectively and consistently analyzes the role of the Arts in his/her society, diverse cultures, and historical periods; and
- (g) synthesizes and evaluates connections among the Arts, other subject areas, life, and work.

Proficient An eighth-grade student at the proficient level in the Arts demonstrates solid academic performance. He/she:

- (a) effectively creates, performs/exhibits in and responds through a minimum of one art form;
- (b) applies concepts, processes and structures in the four art forms of Dance, Music, Theatre, and Visual Arts;
- (c) uses a variety of skills and techniques, to express ideas and to pose and solve problems in the Arts;
- (d) practices responsible, safe and appropriate personal and group behavior in the Arts;
- (e) analyzes the characteristics and merits of their work and the works of others in the Arts;
- (f) analyzes and clearly describes the role of the Arts in his/her society, diverse cultures and historical periods; and
- (g) analyzes and describes connections among the Arts, other subject areas, life, and work.

Nearing Proficiency An eighth-grade student at the nearing proficiency level demonstrates a partial mastery of prerequisite knowledge and skills fundamental for proficiency in the Arts. He/she:

- (a) sometimes creates, performs/exhibits in and responds through a minimum of one art form;

- (b) applies, with some assistance, a basic understanding of the concepts, structures, and processes in the four art forms of Dance, Music, Theatre and Visual Arts;
- (c) identifies skills and techniques and sometimes expresses ideas and poses and solves problems in the Arts;
- (d) sometimes practices responsible, safe and appropriate personal and group behavior in the Arts;
- (e) describes, with assistance, some of the characteristics and merits of his/her work and the works of others in the Arts;
- (f) sometimes identifies the role of the Arts in his/her society, diverse cultures, and historical periods but has difficulty describing that role; and
- (g) identifies and describes, with some assistance, limited connections among the Arts, other subject areas, life, and work.

Novice An eighth-grade student at the novice level is beginning to attain prerequisite knowledge and skills that are fundamental at each benchmark in the Arts. He/she:

- (a) seldom creates, performs/exhibits without specific direction, and sometimes responds in a limited way through one art form;
- (b) applies, with much assistance, a basic understanding of some of the concepts, structures, and processes in the four art forms of Dance, Music, Theatre, and Visual Arts;
- (c) identifies, with assistance, skills and techniques, but has difficulty expressing ideas and posing and solving problems in the Arts;
- (d) has difficulty practicing responsible, safe and appropriate personal and group behavior in the Arts;
- (e) seldom recognizes the characteristics and merits of his/her work or the works of others in the Arts;
- (f) identifies, with assistance, the role of the arts in his/her society, diverse cultures, and historical periods; and
- (g) identifies, with difficulty, limited connections among the Arts, other subject areas, life and work.

Upon Graduation Arts

Advanced A graduating student at the advanced level in the Arts demonstrates superior performance. He/she:

- (a) creates, performs/exhibits and responds through more than one art form at an accomplished level;
- (b) consistently applies, analyzes and interprets the concepts, structures and processes in the four art forms of Dance, Music, Theatre and Visual Arts;
- (c) distinguishes and analyzes appropriate skills and techniques to effectively express ideas and to pose and solve problems in the Arts;
- (d) independently practices responsible, safe and appropriate personal group behavior in the Arts;
- (e) accepts responsibility for the characteristics and merits of their works and appreciates the works of others in the Arts;
- (f) effectively and consistently analyzes and evaluates the role of the Arts in his/her society, diverse cultures, and historical periods; and
- (g) synthesizes and evaluates connections among the Arts, other subject areas, life, and work.

Proficient A graduating student at the proficient level in the Arts demonstrates solid academic performance. He/she:

- (a) creates, performs/exhibits and responds through a minimum of one art form at an accomplished level;
- (b) applies varied concepts, processes and structures in the four art forms of Dance, Music, Theatre, and Visual Arts;
- (c) demonstrates effective skills and techniques in the Arts to express ideas and poses and solves problems;
- (d) practices responsible, safe and appropriate personal and group behavior in the Arts;
- (e) analyzes and evaluates the characteristics and merits of their work and the works of others in the Arts;
- (f) examines and analyzes the role of the Arts in his/her society, diverse cultures, and historical periods; and
- (g) analyzes and responds to connections among the Arts, other subject areas, life, and work.

Nearing Proficiency A graduating student at the nearing proficiency level demonstrates a partial mastery of prerequisite knowledge and skills fundamental for proficiency in the Arts. He/she:

- (a) creates, performs/exhibits and responds through a minimum of one art form in a limited way;

- (b) applies, with some assistance, concepts, structures, and processes in the four art forms of Dance, Music, Theatre, and Visual Arts;
- (c) identifies skills and techniques and sometimes expresses ideas and poses and solves problems in the Arts;
- (d) sometimes practices responsible, safe and appropriate personal and group behavior in the Arts;
- (e) demonstrates a limited understanding of the characteristics and merits of their work and the works of others in the Arts;
- (f) sometimes examines the role of the Arts in his/her society, diverse cultures, and historical periods; and
- (g) demonstrates connections among the Arts, other subject areas, life and work.

Novice A graduating student at the novice level is beginning to attain prerequisite knowledge and skills that are fundamental at each benchmark in the Arts. He/she:

- (a) creates, performs/exhibits, and responds, with specific direction and in a limited way, through a minimum of one art form;
- (b) applies, with much assistance, a basic understanding of some of the concepts, structures, and processes in the four art forms of Dance, Music, Theatre, and Visual Arts;
- (c) identifies, with assistance, skills and techniques, but shows limited ability to express ideas or to pose and solve problems in the Arts;
- (d) practices, with assistance, responsible, safe and appropriate personal and group behavior in the Arts;
- (e) demonstrates, with assistance, a limited understanding of the characteristics and merits of their work and the works of others in the Arts;
- (f) rarely examines, without specific direction, the role of the Arts in his/her society, diverse cultures, and historical periods; and
- (g) demonstrates, with some assistance, limited connections among the Arts, other subject areas, life and work.

Montana K-12 Career and Technology Education Content Standards Framework



opi.mt.gov

Adopted by the Montana Board of Public Education
October 2000

MONTANA STANDARDS FOR CAREER AND VOCATIONAL TECHNICAL EDUCATION

Career and Vocational/Technical Education is a program of articulated sequential experiences that prepare students for successful participation in community, family, postsecondary education and careers.

Career and Vocational/Technical Education programs include Agriculture, Business and Marketing, Family and Consumer Sciences, Industrial Technology, and Trades and Industry.

Career and Vocational/Technical Education programs focus on career preparation, resource management, communication, technical skill development, applied academics, technological literacy; and personal skills and leadership. Programs are driven by authentic applications where students will be prepared for the workplace.

Through Career and Vocational/Technical Education students are empowered to be successful in today's world.

Content Standards indicate what all students should know, understand and be able to do in a specific content area.

Benchmarks define our expectations for students' knowledge, skills and abilities along a developmental continuum in each content area. That continuum is focused at three points—at the end of grade 8, the end of one high school course, and the completion of six units of vocational coursework.

Content Standard 1: Students experience various career opportunities and assess personal career pathways.

Content Standard 2: Students demonstrate an understanding and apply principles of Resource Management (i.e., financial, time, personal management).

Content Standard 3: Students acquire and utilize personal and leadership skills to become successful, productive citizens.

Content Standard 4: Students acquire and demonstrate current technical skills leading to an occupation.

Content Standard 5: Students know and demonstrate the requirements of the workplace through authentic application.

Career and Vocational/Technical Education Content Standard 1

Students experience various career opportunities and assess personal career pathways.

Rationale

Rewarding careers and productive employment are built through exploration and an understanding of career choices.

Benchmarks

Students will:

Benchmark I (by the end of 8th grade)	Benchmark II (grades 9-12)	Benchmark III (concentrators)
<ol style="list-style-type: none">1. describe and demonstrate the importance of goal setting and career planning.2. explore and investigate career opportunities.3. describe various lifetime roles (e.g., friend, student, leader, worker, family member).	<ol style="list-style-type: none">1. explore and identify personal interests, aptitudes, and abilities and develop strategies to achieve tentative career goals.2. utilize local resources to research career plans.3. recognize the interrelationships of family, community, career, and leisure roles.	<ol style="list-style-type: none">1. develop, evaluate, and modify personal career plans.2. experience an internship, job shadow, or work experience related to their career plan.3. evaluate career choices and the effect on family and lifestyle.

Career and Vocational/Technical Education Content Standard 2

Students demonstrate an understanding and apply principles of Resource Management (i.e., financial, time, personal management).

Rationale

Students must be able to manage workplace resources in order to become successful members of society.

Benchmarks

Students will:

Benchmark I (by the end of 8th grade)	Benchmark II (grades 9-12)	Benchmark III (concentrators)
<ol style="list-style-type: none">1. use basic monetary skills, practice maintaining basic financial records.2. follow detailed instructions and complete assignment (e.g., project/time management).3. recognize time constraints (e.g., personal time).4. recognize limitations on physical resources.	<ol style="list-style-type: none">1. prepare a budget and keep financial records.2. prioritize, allocate time, prepare and follow schedules to complete a project.3. apply appropriate time to task.4. use physical resources wisely to accomplish a goal.	<ol style="list-style-type: none">1. prepare and analyze financial plans, make forecasts, make adjustments to meet objectives, and evaluate financial records.2. select, design, complete and evaluate a project (e.g., manage multiple facets of a project).3. manage multiple priorities and assess effectiveness of outcomes (school, work, family).4. evaluate the use of physical resources.

Career and Vocational/Technical Education Content Standard 3

Students acquire and utilize personal and leadership skills to become successful, productive citizens.

Rationale

The development of positive personal qualities and leadership is a vital component in career success. This development can be achieved through a variety of methods, which may include Career and Technical Student Organizations.

Benchmarks

Students will:

Benchmark I (by the end of 8th grade)	Benchmark II (grades 9-12)	Benchmark III (concentrators)
<ol style="list-style-type: none">1. serve as a positive role model by following the rules, regulations, and policies of the school community.2. identify personal and work ethics.3. recognize characteristics of good citizenship.4. identify methods that can increase a person's self-esteem.5. observe and recognize diversity.6. describe several methods of communication.	<ol style="list-style-type: none">1. demonstrate active leadership skills by participation in group activities and projects.2. demonstrate positive personal and work ethics.3. demonstrate skills to be a productive citizen.4. apply self-esteem building practices.5. demonstrate appreciation for diverse perspective needs and characteristics.6. practice several methods of effective communication.	<ol style="list-style-type: none">1. assume a leadership role (e.g., team leader, CTSO officer, committee chair).2. evaluate, compare and contrast positive personal and work ethics.3. implement and evaluate a successful, productive citizenship activity (i.e., community service project).4. select methods to constructively build esteem in others as well as self.5. respect differences and works well with individuals from diverse backgrounds and philosophies.6. utilize multiple communication methods to complete a class project.

Career and Vocational/Technical Education Content Standard 4

Students acquire and demonstrate current technical skills leading to an occupation.

Rationale

In today's technology-driven society, students must be able to use tools, materials and processes to improve task completion and transfer technical skills within a variety of workplace settings.

Benchmarks

Students will:

Benchmark I (by the end of 8th grade)	Benchmark II (grades 9-12)	Benchmark III (concentrators)
1. identify appropriate technical skills required for selected occupation.	1. practice technical skills and procedures required for an occupation.	1. master the technical skills required for an entry level job or advanced training.
2. practice safe and appropriate use of technology.	2. practice safe and appropriate use of technology.	2. practice safe and appropriate use of technology.
3. identify and use the appropriate tools and equipment for the task.	3. select the appropriate tools, equipment, and procedures for the task.	3. mastery of tools and equipment needed for an entry level job or advanced training.
4. identify and demonstrate appropriate care of technological tools.	4. manage and maintain technological tools and follow troubleshooting protocol.	4. manage and maintain technological systems and follow troubleshooting protocol.
5. follow basic technical instruction.	5. apply technical information to a variety of sources.	5. adapt technical information generated from a variety of technical sources.

Career and Vocational/Technical Education Content Standard 5

Students know and demonstrate the requirements of the workplace through authentic application.

Rationale

Students who have the opportunity to learn in a relevant, authentic context will be prepared to meet the demands of today's workforce.

Benchmarks

Students will:

Benchmark I (by the end of 8th grade)	Benchmark II (grades 9-12)	Benchmark III (concentrators)
<ol style="list-style-type: none">1. apply academic and technical skills to a class project.2. identify the concepts of entrepreneurship.3. describe how decisions affect self and others.4. use acceptable industry standard equipment in a school setting.	<ol style="list-style-type: none">1. practice and demonstrate academic and technical skills to a workplace setting.2. apply the concepts of entrepreneurship.3. identify possible outcomes and consequences of decisions.4. use acceptable industry standard equipment in a school setting.	<ol style="list-style-type: none">1. transfer academic and technical skills to the level of industry standards.2. evaluate and/or design components of a business plan.3. demonstrate decision-making and problem-solving skills.4. use acceptable industry standard equipment in a school setting.

Career and Vocational/Technical Education Performance Standards: A Profile of Four Levels

The Career and Vocational/Technical Education Performance Standards describe students' knowledge, skills, and abilities in the Career and Vocational/Technical content areas on a continuum from kindergarten through grade 12. These descriptions provide a picture or profile of student achievement at the four performance levels: advanced, proficient, nearing proficiency, and novice.

<u><i>Advanced</i></u>	This level denotes superior performance.
<u><i>Proficient</i></u>	This level denotes solid academic performance for each benchmark. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.
<u><i>Nearing Proficiency</i></u>	This level denotes that the student has partial mastery or prerequisite knowledge and skills fundamental for proficient work at each benchmark.
<u><i>Novice</i></u>	This level denotes that the student is beginning to attain the prerequisite knowledge and skills that are fundamental for work at each benchmark.

Benchmark I

Advanced An eighth-grade student at the advanced level in career and vocational/technical education demonstrates superior performance. He/she:

- (a) consistently and independently demonstrates the skills needed to research a career;
- (b) consistently identifies and use all available resources;
- (c) consistently demonstrates the skills needed to become a successful productive citizen;
- (d) consistently identifies and uses technical skills, tools and equipment for a task; and
- (e) consistently applies acceptable industry standards to a classroom project.

Proficient An eighth-grade student at the proficient level in career and vocational/technical education demonstrates solid academic performance. He/she:

- (a) demonstrates the skills needed to research a career;
- (b) identifies all available resources;
- (c) usually recognizes the skills needed to become a successful, productive citizen;
- (d) usually identifies and uses technical skills, tools and equipment for a task; and
- (e) usually applies acceptable industry standards to a classroom project.

Nearing Proficiency An eighth-grade student at the nearing proficiency level in career and vocational/technical education demonstrates partial mastery of prerequisite knowledge and skills fundamental for proficiency in career and vocational/technical education. He/she:

- (a) usually demonstrates the skills needed to research a career;

- (b) usually identifies all available resources.
- (c) sometimes identifies the skills needed to become a successful, productive citizen;
- (d) sometimes identifies and uses technical skills, tools, and equipment for a task; and
- (e) with assistance, applies acceptable industry standards to a classroom project.

Novice An eighth-grade student at the novice level in career and vocational/technical education is beginning to attain prerequisite knowledge and skills that are fundamental in career and vocational/technical education. He/she:

- (a) sometimes demonstrates the skills needed to research a career;
- (b) sometimes identifies all available resources;
- (c) rarely identifies the skills needed to become a successful productive citizen;
- (d) seldom identifies and uses technical skills, tools and equipment for a task; and
- (e) with difficulty applies acceptable industry standards to a classroom project.

Benchmark II

Advanced A high school student completing one course in career and vocational/technical education at the advanced level demonstrates superior performance. He/she:

- (a) clearly utilizes local resources and identifies his/her interests, aptitudes, and personal needs as related to career plans;
- (b) consistently uses resources and applies principles of resource management;
- (c) consistently demonstrates leadership and citizenship skills;
- (d) consistently uses and demonstrates advanced technical skills and problem-solving; and
- (e) effectively applies the concepts of an entrepreneur and technical skills to a workplace setting.

Proficient A high school student completing one course in career and vocational/technical education at the proficient level demonstrates solid academic performance. He/she:

- (a) usually utilizes local resources and identifies his/her interests, aptitudes, and personal needs as related to career plans;
- (b) usually uses resources and applies basic principles of resource management;
- (c) usually demonstrates leadership and citizenship skills in classroom activities;
- (d) usually demonstrates advanced technical skills and problem-solving; and
- (e) applies the concepts of an entrepreneur and technical skills to a workplace setting.

Nearing Proficiency A high school student completing one course in career and vocational/technical education at the nearing proficiency level demonstrates partial mastery of prerequisite knowledge and skills fundamental for proficiency in career and vocational/technical education. He/she:

- (a) sometimes locates local resources and identifies his/her interests, aptitudes, and personal needs as related to career plans;
- (b) sometimes uses resources and applies principles of resource management;
- (c) sometimes demonstrates leadership and citizenship skills in classroom activities;
- (d) sometimes demonstrates advanced technical skills and problem-solving; and
- (e) sometimes applies the concepts of an entrepreneur and technical skills to a workplace setting.

Novice A high school student completing one course in career and vocational/technical education at the novice level is beginning to attain prerequisite knowledge and skills that are fundamental for proficient in career and vocational/technical education. He/she:

- (a) with assistance, finds local resources and identifies their interest, aptitudes, personal needs as related to career plans;
- (b) with assistance, uses resources and applies principles of resource management;
- (c) rarely demonstrates leadership and citizenship skills;

- (d) rarely demonstrates advanced technical skills and problem-solving; and
- (e) rarely applies the concepts of an entrepreneur and technical skills to a workplace setting.

Benchmark III

Advanced A graduating student and vocational concentrator at the advanced level in career and vocational/technical education demonstrates superior performance. He/she:

- (a) purposefully develop and evaluate a career plan that includes work experience;
- (b) consistently manages and evaluates resource use;
- (c) readily assumes leadership roles and is a productive citizen;
- (d) masters current technical skills, tools and equipment for an entry level job or advanced training; and
- (e) independently transfers academic and technical skills to Industry standards.

Proficient A graduating student and vocational concentrator at the proficient level in career and vocational/technical education demonstrates solid academic performance. He/she:

- (a) completes a career plan that includes work experience;
- (b) manages and evaluates resource use;
- (c) accepts leadership roles and is a productive citizen;
- (d) demonstrate current technical skills, tools and equipment for an entry level job or advanced training; and
- (e) often transfers academic and technical skills to Industry standards.

Nearing Proficiency A graduating student and vocational concentrator at the nearing proficiency level in career and vocational/technical education demonstrates partial mastery of prerequisite knowledge and skills fundamental for proficiency in career and vocational/technical education. He/she:

- (a) develops a partial career plan that includes work experience;
- (b) sometimes manages and evaluates resource use;
- (c) sometimes assumes leadership roles and is a productive citizen;
- (d) sometimes demonstrates current technical skills, tools and equipment for an entry level job or advanced training; and
- (e) with assistance, transfers academic and technical skills to Industry standards.

Novice A graduating student and vocational concentrator at the novice level in career and vocational/technical education is beginning to attain prerequisite knowledge and skills that are fundamental in career and vocational/technical education. He/she:

- (a) rarely develops a complete career plan;
- (b) seldom manages and evaluates resource use;
- (c) rarely assumes leadership roles and is a productive citizen;
- (d) has difficulty with current technical skills, tools and equipment for an entry level job or advanced training; and
- (e) struggles to transfer academic and technical skills to Industry standards.

Montana K-12 Health Enhancement Content Standards Framework



opi.mt.gov

Adopted by the Montana Board of Public Education
October 1999

MONTANA STANDARDS FOR HEALTH ENHANCEMENT

Health Enhancement combines the disciplines of “health” and “physical education” into a single curriculum with its focus on health-related outcomes. Concepts learned in the classroom are reinforced in the gymnasium and vice versa. Health is essential to a quality of life and leads directly to improved learning. Health enhancement develops the skills and behaviors necessary for students to become healthy, productive citizens who take personal responsibility for their own well-being as well as a social responsibility for the health of their community.

Early initiation of healthy behaviors is a predictor of enhanced school performance as well as less risk for morbidity and premature mortality in adulthood. Health enhancement is a critical component of the educational process.

Content Standards indicate what students should know, understand and be able to do in a specific content area.

Benchmarks define our expectations for students’ knowledge, skills, and abilities along a developmental continuum in each content area. That continuum is focused at three points—the end of grade 4, the end of grade 8 and grade 12.

Health Content Standard 1—Students have a basic knowledge and understanding of concepts that promote comprehensive health.

Health Content Standard 2—Students demonstrate competency in a variety of movement forms.

Health Content Standard 3—Students apply movement concepts and principles while learning and developing motor skills.

Health Content Standard 4—Students achieve and maintain a challenging level of health-related physical fitness.

Health Content Standard 5—Students demonstrate the ability to use critical thinking and decision making to enhance health.

Health Content Standard 6—Students demonstrate interpersonal communication skills to enhance health.

Health Content Standard 7—Students demonstrate health-enhancing behaviors.

Health Enhancement Content Standard 1

Students have a basic knowledge and understanding of concepts that promote comprehensive health.

Rationale

Basic to health enhancement is the foundation of knowledge about the relationships of behavior and health, the interactions within the human body that promote health and fitness, and actions to prevent disease and other health problems. Comprehensive application of health-enhancing strategies enables the student to be health literate, self-directed lifelong learners.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. describe relationships between personal health behaviors and individual well-being.2. describe the basic structure and function of the major human body systems, emphasizing growth and development.3. identify common health problems (e.g., eyes, ears, teeth, skin) that should be detected and treated early.4. identify personal health-enhancing strategies that encompass substance abuse, nutrition, exercise, injury/disease prevention, including HIV/AIDS prevention, and stress management.5. identify the potential sources of environmental hazards.	<ol style="list-style-type: none">1. explain the relationship between positive health behaviors and the prevention of injury, illness, disease, and premature death.2. explain the function and maintenance of body systems, including the reproductive system.3. analyze how peers, family, heredity, and environment influence personal health.4. explain personal health-enhancing strategies that encompass substance abuse, nutrition, exercise, sexual activity, injury/disease prevention, including HIV/AIDS prevention, and stress management.5. explain how appropriate health care can prevent premature death and disability.	<ol style="list-style-type: none">1. analyze how attitudes and behaviors can impact health maintenance, disease prevention, and injury.2. explain the impact of personal health behaviors on the functioning of body systems, including the reproductive system.3. analyze how the environment, public health policies, government regulations, research, and medical advances influence personal and community health.4. develop personal health-enhancing strategies that encompass substance abuse, nutrition, exercise, sexual activities, injury/disease prevention, including HIV/AIDS prevention, and stress management.5. advocate for personal, family, and community health.

Health Enhancement Content Standard 2

Students demonstrate competency in a variety of movement forms.

Rationale

Basic movement skills are the foundation students need in order to lead a more active and productive life. It is the daily application of fundamental motor skills by which skillful movers are developed.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. demonstrate mature form in all locomotor patterns and selected manipulative and non-locomotor skills.2. combine movement skills in applied and dynamic settings or lead-up games.3. acquire skills including perceptual, motor, and rhythm.	<ol style="list-style-type: none">1. demonstrate a variety of physical skills which encompass lead-up games, rhythms and dance, and individual, dual, and team sports.	<ol style="list-style-type: none">1. demonstrate a variety of physical skills which encompass dance, individual, dual and team sports, and lifetime physical activities.

Health Enhancement Content Standard 3

Students apply movement concepts and principles while learning and developing motor skills.

Rationale

The ability of the learner to use cognitive information is essential in understanding and enhancing motor skill acquisition and performance.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. apply critical elements to improve personal performance in fundamental motor skills and some specialized skills.2. recognize and apply movement concepts that impact the quality of performance.	<ol style="list-style-type: none">1. understand and apply movement concepts to game strategies.2. identify and refine the critical elements of advanced movement skills.3. identify and understand the application of basic rules and strategies in a variety of physical activities.	<ol style="list-style-type: none">1. identify the characteristics of technically correct performance in a variety of movement forms.2. apply rules and advanced strategies to a variety of physical activities.3. know and understand scientifically based information regarding movement performance.

Health Enhancement Content Standard 4

Students achieve and maintain a challenging level of health-related physical fitness.

Rationale

Physical fitness, developed through regular physical activity, is essential in enjoying an active, productive and healthy life.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. participate in a variety of developmentally appropriate fitness activities involving each component of health-related physical fitness.2. identify each component of health-related physical fitness.3. associate each health-related physical fitness component to the improvement of personal health.4. demonstrate individual progress toward each component of health-related physical fitness.	<ol style="list-style-type: none">1. participate in a variety of developmentally appropriate fitness activities involving each component of health-related physical fitness.2. understand and apply basic principles of training to improve health-related physical fitness.3. identify personal fitness goals.4. demonstrate individual progress toward each component of health-related physical fitness.	<ol style="list-style-type: none">1. participate in a variety of fitness activities involving each component of health-related physical fitness.2. demonstrate the knowledge, skills, and desire to monitor and adjust levels to meet personal fitness needs.3. design a personal fitness program.4. demonstrate individual progress toward each component of health-related physical fitness.

Health Enhancement Content Standard 5

Students demonstrate the ability to use critical thinking and decision making to enhance health.

Rationale

Problem-solving processes are lifelong skills needed in order to implement and sustain health-enhancing behaviors. These skills make it possible for individuals to transfer health knowledge into healthy lifestyles.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. identify problem-solving processes specific to health-related issues.2. access valid health information and resources.3. explain how basic health information and resources are used in setting goals and decision making.4. set personal health goals and record progress toward achievement.5. predict results of positive health decisions.	<ol style="list-style-type: none">1. individually and collaboratively apply problem-solving processes to health issues.2. analyze how health-related decisions are influenced by the attitudes and values of individuals, families, and the community.3. predict how decisions specific to health behavior have consequences for self and others.4. describe personal factors that influence an individual's health goals.5. explain a personal health plan that addresses needs, strengths, and risks.6. identify the validity of health information and how culture, media, and technology influence choices.	<ol style="list-style-type: none">1. utilize various problem-solving strategies when making health decisions related to needs and risks of young adults.2. predict immediate and long-term impacts of health decisions on the individual, family and community.3. implement a plan for achieving personal health goals.4. evaluate progress toward attaining personal health goals.5. formulate an effective plan for lifelong health.6. locate, evaluate, and utilize credible health information.

Health Enhancement Content Standard 6

Students demonstrate interpersonal communication skills to enhance health.

Rationale

Self-concept and personal family and community health are enhanced through effective verbal and nonverbal communication.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. describe characteristics needed to be a responsible friend and family member.2. demonstrate ways to communicate care, consideration, and respect of self and others.3. demonstrate healthy ways to express needs, wants, and feelings.4. demonstrate refusal skills.5. demonstrate active listening skills.6. demonstrate nonviolent strategies to resolve conflicts.	<ol style="list-style-type: none">1. describe how the behavior of family and peers affects interpersonal communication.2. demonstrate ways to communicate care, consideration, and respect of self and others.3. demonstrate healthy ways to express needs, wants, and feelings.4. demonstrate refusal and mediation skills to enhance health.5. demonstrate strategies to analyze and manage conflict in healthy ways.	<ol style="list-style-type: none">1. demonstrate skills for communicating effectively with family, peers, and others.2. demonstrate ways to communicate care, consideration, and respect of self and others.3. demonstrate healthy ways to express needs, wants, and feelings.4. demonstrate refusal, mediation, and collaboration skills for solving interpersonal conflict without harming self or others.5. analyze how interpersonal communication affects relationships.6. analyze the possible causes of conflict and demonstrate strategies to manage conflict.

Health Enhancement Content Standard 7

Students demonstrate health-enhancing behaviors.

Rationale

Many diseases and injuries can be prevented by reducing risk-taking behaviors. In addition, practicing health-enhancing behaviors contributes to a positive quality of life. Students will have a foundation for living a healthy life by accepting responsibility for their personal health.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. interact with friends and others through participation.2. use physical activity as a means of self-expression.3. experience enjoyment through physical activity.4. regularly participate in physical activity.5. demonstrate strategies to improve or maintain personal health.	<ol style="list-style-type: none">1. enjoy participation in physical activity.2. recognize the social benefits of physical activity.3. participate in health-enhancing physical activity outside of school.4. work cooperatively with a group to achieve group goals in both cooperative and competitive settings.5. demonstrate strategies to improve or maintain personal and family health.	<ol style="list-style-type: none">1. regularly participate in health-enhancing physical fitness activities to promote personal well-being on a voluntary basis.2. experience enjoyment from physical activity and a healthy lifestyle.3. participate in activities that promote community well-being.4. initiate independent and responsible health-enhancing personal behavior.5. demonstrate strategies to improve or maintain personal, family, and community health.

Health Enhancement Performance Standards: A Profile of Four Levels

The Health Enhancement Performance Standards describe students' knowledge, skills, and abilities in the health enhancement content area on a continuum from kindergarten through grade 12. These descriptions provide a picture or profile of student achievement at four performance levels: advanced, proficient, nearing proficiency and novice.

Advanced: This level denotes superior performance.

Proficient: This level denotes solid academic performance for each benchmark. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.

Nearing Proficiency: This level denotes that the student has partial mastery or prerequisite knowledge and skills fundamental for proficient work at each benchmark.

Novice: This level denotes that the student is beginning to attain the prerequisite knowledge and skills that are fundamental for work at each benchmark.

Grade 4 Health Enhancement

Advanced: (1) A fourth-grade student at the advanced level in health enhancement demonstrates superior performance. He/she:

- (a) uses a variety of motor skills and skillful and efficient movement patterns in a variety of applied and dynamic settings;
- (b) knows, understands, describes, and demonstrates health enhancing concepts and behaviors, and how they relate to personal and family health; and
- (c) demonstrates conflict resolution skills, refusal skills, appropriate self-expression, and concern for others.

Proficient: (1) A fourth-grade student at the proficient level in health enhancement demonstrates solid academic performance. He/she:

- (a) consistently exhibits fundamental motor skills in a variety of applied settings;
- (b) uses a combination of movement patterns with smooth transitions; and
- (c) identifies, describes, and demonstrates understanding of some concepts of health promotion and how they impact personal and family health.

Nearing Proficiency: (1) A fourth-grade student at the nearing proficiency level in health enhancement demonstrates partial mastery of the prerequisite knowledge and skills fundamental for proficiency in health enhancement. He/she:

- (a) demonstrates fundamental motor skills in some applied settings;
- (b) identifies and demonstrates understanding of some relationships between healthy behaviors and disease prevention; and
- (c) exhibits socially acceptable behavior in most settings.

Novice: (1) A fourth-grade student at the novice level in health enhancement is beginning to attain the prerequisite knowledge and skills that are fundamental at each benchmark in health enhancement. He/she:

- (a) sometimes demonstrates and combines fundamental motor skills and socially acceptable interpersonal behavior;
- (b) seldom identifies concepts related to a healthy lifestyle and healthy relationships; and
- (c) does not consistently understand health promotion and disease prevention concepts and how they relate to his/her own health.

Grade 8 Health Enhancement

Advanced: (1) An eighth-grade student at the advanced level in health enhancement demonstrates superior performance. He/she:

- (a) effectively maintains an appropriate level of skill and health-related fitness;
- (b) applies health promotion concepts to access valid health information and products;
- (c) thoroughly evaluates the influences of media and culture on health;
- (d) exhibits effective interpersonal social skills;
- (e) predicts consequences of actions;
- (f) develops a personal plan for health that involves goal-setting and decision-making skills; and
- (g) effectively communicates information and opinions regarding health promotion and personal and social health.

Proficient: (1) An eighth-grade student at the proficient level in health enhancement demonstrates solid academic performance. He/she:

- (a) attains an appropriate level of skill-related fitness;
- (b) identifies influences of media and culture on health; and
- (c) analyzes concepts of health promotion, including determining the validity of information and products, evaluating the influence of external factors on health, examining the causes of interpersonal conflicts and how goal-setting and decision-making influence health.

Nearing Proficiency: (1) An eighth-grade student at the nearing proficiency level in health enhancement demonstrates partial mastery of the prerequisite knowledge and skills fundamental for proficiency in health enhancement. He/she:

- (a) shows some improvement in developing appropriate skill-related fitness components and understands their contributions to overall well-being;
- (b) achieves an appropriate level of health-enhancing physical fitness;
- (c) describes fundamental relationships in health promotion and disease prevention; and
- (d) demonstrates basic interpersonal social skills appropriate to the eighth-grade level.

Novice: (1) An eighth-grade student at the novice level in health enhancement is beginning to attain the prerequisite knowledge and skills that are fundamental at each benchmark in health enhancement. He/she:

- (a) participates in appropriate skill-related fitness activities and identifies their contributions to overall well-being;
- (b) works toward health-related physical fitness;
- (c) identifies and describes healthy behaviors and disease prevention concepts;
- (d) often demonstrates understanding of health information; and
- (e) sometimes demonstrates appropriate interpersonal social skills.

Upon Graduation Health Enhancement

Advanced: (1) A graduating student at the advanced level in health enhancement demonstrates superior performance. He/she:

- (a) demonstrates high levels of competency in a variety of physical activities;
- (b) demonstrates understanding of scientific principles of physical fitness and the relationships to total well-being, and applies that information in developing personal wellness during different periods of life;
- (c) initiates independent personal and social behaviors and takes both leadership and following roles as situations determine;
- (d) thoroughly analyzes, evaluates, and articulates opinions concerning personal and social health issues;
- (e) effectively utilizes strategies to overcome barriers in social situations; and
- (f) forms a comprehensive plan for healthful living.

Proficient: (1) A graduating student at the proficient level in health enhancement demonstrates solid academic performance. He/she:

- (a) participates in some physical activities;
- (b) demonstrates competency in a variety of physical activities;
- (c) demonstrates the knowledge and skills necessary to determine current and future fitness needs;
- (d) initiates independent and responsible personal behavior;
- (e) anticipates potentially dangerous consequences of actions;
- (f) analyzes, evaluates, and forms opinions regarding health information, services, products, and the effects of external influences; and
- (g) uses communications skills effectively in a variety of settings.

Nearing Proficiency: (1) A graduating student at the nearing proficiency level in health enhancement demonstrates partial mastery of the prerequisite knowledge and skills fundamental for proficiency in health enhancement. He/she:

- (a) participates in some physical activities;
- (b) demonstrates the fundamental knowledge and skill to achieve a health-enhancing level of fitness;
- (c) displays socially responsible behavior; and
- (d) describes health concepts, health care costs and services, the role of personal responsibility and external influences on a health-enhancing lifestyle.

Novice: (1) A graduating student at the novice level in health enhancement is beginning to attain the prerequisite knowledge and skills that are fundamental at each benchmark in health enhancement. He/she:

- (a) participates in some physical activities that contribute to well-being throughout the life span;
- (b) demonstrates the knowledge and skills to adjust activity levels to meet personal fitness needs;
- (c) identifies socially responsible behavior; and
- (d) sometimes demonstrates understanding of health concepts, health care costs and services, and the role of personal responsibility, decision-making, and external factors on health-enhancing lifestyles.

GLOSSARY OF TERMS AS THEY ARE USED IN THIS DOCUMENT

Advocate: ability to express information and opinions in support of something.

Analyze: to separate into its parts so as to examine in detail.

Applied setting: involves completing skills in a specific setting determined by the instructor such as moving forward while jumping rope, running forward to kick a soccer ball or doing a basketball layup.

Collaboration skills: proficiencies necessary to work together in some undertaking in a group setting (e.g., cooperative, supportive, trusting, constructive, friendly).

Community health: taking a social responsibility toward the health needs of one's neighborhood, city, country or world.

Competency: the ability to perform and apply skills.

Comprehensive health: includes the components of drug and alcohol prevention, tobacco use prevention, nutrition, physical activity, human growth, development and family life, environmental health, mental health, disease prevention, consumer health, accident prevention and safety, and personal health.

Conflict resolution skills: skills a person can use to resolve a disagreement in a healthful, safe, legal, respectful and nonviolent way, including such things as defining the conflict, taking responsibility for actions, using "I" messages, listening to the needs of others, evaluating solutions, agreeing to a solution and following the agreement.

Critical elements: characteristics of mature performance (e.g., running without bumping into others, throwing a ball with the correct leg forward, skipping without falling).

Critical thinking: is evaluating the effectiveness, validity, and possible impact of what is read, heard or viewed and exploring distinctions between concrete and abstract, plausible and implausible. With critical thinking, one evaluates the validity of assertions and detects fallacies in reasoning.

Dance: to move the body and feet in rhythm, usually to music.

Decision-making: using logic to form conclusions and make judgments, usually including (1) assessing the decision to be reached, (2) listing possible options, (3) evaluating options, (4) deciding which option to pursue, and (5) acting on the decision.

Developmentally appropriate: takes into account those aspects of teaching and learning that change with the age, experience and ability of the learner.

Dual sports: includes games, sports, and other leisure pursuits that require two participants simultaneously such as tennis, badminton and racquetball.

Dynamic settings: involves performing skills and skill combinations in complex settings where the environment changes, such as performing manipulative tasks while dodging, performing a gymnastics sequence or a dance to music.

Environmental hazards: those risks associated with factors present where you live (e.g., smog, smoke, hazardous/toxic waste, high crime area).

Family health: taking a responsibility toward the health needs of one's immediate family.

Fundamental motor skills: includes both locomotor skills such as walking, running, hopping, skipping, jumping, leaping and galloping, as well as manipulative skills such as throwing, passing, kicking, dribbling and catching.

Health enhancement: a subject area that includes content from the disciplines of both health and physical education which has as its major focus the development of a healthy lifestyle.

Health-enhancing strategy: planning and directing an action that will promote one's well-being or that of their community or family.

Health literate: the ability of the individual to obtain, interpret, and understand basic health information and services and the competence to use such information and services in ways which enhance health.

Health-related physical fitness: includes the components of (1) cardiovascular endurance, (2) muscular strength and endurance, (3) flexibility, and (4) body composition.

Human body systems: a set of things so connected as to form a unity or organic whole. Major body systems include the circulatory, integumentary, muscular, respiratory, skeletal and digestive systems. Other body systems include the nervous, urinary, reproductive, endocrine, pulmonary and lymphatic systems.

Individual sports: includes games, sports, and other leisure pursuits pursued by a single individual such as swimming, weight lifting and orienteering.

Interpersonal behavior: the way people act and react to each other and includes such behaviors as honesty, flexibility, tolerance, courtesy, and respect for others and their property.

Interpersonal communication skills: verbal or nonverbal abilities that help to share feelings, thoughts and information with another person in a positive manner.

Interpersonal social skills: skills that enhance the ability to work and play together such as cooperation, fair play, sportsmanship, respect, loyalty, patience, self-control and tolerance.

Lead-up games: activities that utilize basic skills and strategies related to specific games, sports or leisure activities.

Lifetime physical activities: includes games, sports, and other leisure pursuits usually performed by a person over the course of a lifetime, including activities like tennis, golf, bowling, backpacking, canoeing and racquetball.

Listening skills: are active processes that involve discriminating among sounds; using strategies such as anticipating meanings, ignoring distractions, and visualizing what is heard; evaluating; and responding appropriately. Listening is active, hearing is passive.

Locomotor: skills used to move the body from one place to another, including walking, running, skipping, leaping, sliding, galloping, jumping and hopping.

Manipulative: skills developed when a person handles some kind of object, including throwing, kicking, batting, catching, redirecting an object in flight (such as a volleyball) or continuous control of an object such as a hoop.

Mature form: means that the basic movement can be performed with ease, is smooth, efficient, repetitive and can be performed without thinking out each step of the movement.

Mediation skills: combines the use of problem-solving methods and active listening skills to come to a common understanding and resolution of a problem between disputants and includes such skills as defining the conflict, discussing possible solutions, evaluating the solutions, agreeing to a solution and following the agreement.

Morbidity: the rate of disease or proportion of diseased people.

Mortality: the rate or proportion of death from all causes.

Motor skills or fundamental motor skills: basic fundamental movement patterns usually involving the large muscle groups that are necessary to perform a variety of physical activities.

Movement concepts: a generalized idea concerning human motion (e.g., the lower the center of gravity, the more stable the object; throwing a ball in front of a moving receiver).

Movement concepts and principles: relates to cognitive information concerning the development of physical fitness and motor development and its application in real life such as specificity in training and other principles of conditioning, application of force, center of gravity, and stress management.

Non-locomotor: skills that are performed in place without appreciable spatial movement and include bending and stretching, pushing, pulling, raising and lowering, twisting and turning, and shaking.

Non-violent strategies: techniques that are used to avoid or de-escalate a potentially violent situation and includes problem-solving, active listening, conflict resolution skills, mediation, sit-downs or humor.

Overall well-being: includes the intellectual, social, emotional and physical aspects of health.

Perceptual motor skills: movement involving the interrelationships between the perceptual or sensory processes and motor activity, including balance and directionality.

Personal health: taking responsibility for one's own health care and health needs.

Problem-solving processes: methods used to identify a problem, generate possible solutions, evaluate the benefits and risks, select the solution with the most benefits, implement the solution and evaluate the results using the feedback to possibly modify or change the solution.

Relationship: the quality or state of connection.

Rhythm(s): involves motion that possesses regularity and a predictable pattern, often involving music such as dance patterns, jumping rope or tinkling.

Principles of training: guidelines to follow to derive the maximum benefits from an exercise plan and to prevent injuries which include warming up, cooling down, frequency, duration and intensity, overload and specificity.

Refusal skills: skills that are used when a person wants to say NO to an action and/or leave a situation that threatens health, safety, breaks laws, disobeys guidelines set by adults or detracts from character and includes such skills as assertively saying "no," using body language that says "no," suggesting alternative behaviors, walking away and avoiding the situation.

Scientifically based information: involves research-based knowledge concerning human activity and performance (e.g., the overload principle in training, the principles of frequency, duration and intensity in aerobic workouts, specificity of training, absorption of force principles).

Skill-related fitness activities: includes qualities that enable a person to perform in activities and is synonymous with motor fitness and includes the components of agility, coordination, speed, power, and balance.

Specialized skills: skills basic to a movement form (e.g., basketball chest pass, soccer dribble, fielding a softball with a glove).

Stress management: the ability to cope with stress as a normal part of life, including the ability to identify situations and conditions that produce stress and adopt healthy coping behaviors.

Team sports: includes games, sports and leisure pursuits that require the participation of one or more groups of individuals on teams such as basketball, football and soccer.

Montana K-12 Social Studies Content Standards Framework



opi.mt.gov

Adopted by the Montana Board of Public Education
October 2000

MONTANA STANDARDS FOR SOCIAL STUDIES

Social studies is an integrated study of the social sciences and humanities designed to foster citizenship in an interdependent world. Social studies provides coordinated, systematic study of such disciplines as economics, history, geography, government, sociology, anthropology, psychology and elements of the humanities. Social studies addresses political, economic, geographic, and social processes that allow students to make informed decisions for personal and public good.

Social studies develops the knowledge, skills, and processes necessary to understand historical and present day connections among diverse individuals and groups. A study of Montana's rich past and geographic diversity includes the distinct cultural heritage and contemporary perspectives of Montana's American Indians and other cultural groups.

Content Standards indicate what all students should know, understand and be able to do in a specific content area.

Benchmarks define our expectations for students' knowledge, skills and abilities along a developmental continuum in each content area. That continuum is focused at three points—at the end of grade 4, the end of grade 8, and grade 12.

Content Standard 1—Students access, synthesize, and evaluate information to communicate and apply social studies knowledge to real world situations.

Content Standard 2—Students analyze how people create and change structures of power, authority, and governance to understand the operation of government and to demonstrate civic responsibility.

Content Standard 3—Students apply geographic knowledge and skills (e.g., location, place, human/environment interactions, movement, and regions).

Content Standard 4—Students demonstrate an understanding of the effects of time, continuity, and change on historical and future perspectives and relationships.

Content Standard 5—Students make informed decisions based on an understanding of the economic principles of production, distribution, exchange, and consumption.

Content Standard 6—Students demonstrate an understanding of the impact of human interaction and cultural diversity on societies.

Social Studies Content Standard 1

Students access, synthesize, and evaluate information to communicate and apply social studies knowledge to real world situations.

Rationale

Every discipline has a process by which knowledge is gained or inquiry is made. In the social studies, the information inquiry process is applied to locate and evaluate a variety of primary and secondary sources of information. Information gathered in this manner is then used to draw conclusions in order to make decisions, solve problems and negotiate conflicts. Finally, as individuals who participate in self-governance, the decision making process needs to be understood and practiced by students as they prepare to take on civic and economic responsibilities.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. identify and practice the steps of an inquiry process (i.e., identify question or problem, locate and evaluate potential resources, gather and synthesize information, create a new product, and evaluate product and process).2. evaluate information quality (e.g., accuracy, relevance, fact or fiction).3. use information to support statements and practice basic group decision making strategies in real world situations (e.g., class elections, playground and classroom rules, recycling projects, school stores).	<ol style="list-style-type: none">1. apply the steps of an inquiry process (i.e., identify question or problem, locate and evaluate potential resources, gather and synthesize information, create a new product, and evaluate product and process).2. assess the quality of information (e.g., primary or secondary sources, point of view and embedded values of the author).3. interpret and apply information to support conclusions and use group decision making strategies to solve problems in real world situations (e.g., school elections, community projects, conflict resolution, role playing scenarios).	<ol style="list-style-type: none">1. analyze and adapt an inquiry process (i.e., identify question or problem, locate and evaluate potential resources, gather and synthesize information, create a new product, and evaluate product and process).2. apply criteria to evaluate information (e.g., origin, authority, accuracy, bias, and distortion of information and ideas).3. synthesize and apply information to formulate and support reasoned personal convictions within groups and participate in negotiations to arrive at solutions to differences (e.g., elections, judicial proceedings, economic choices, community service projects).

Social Studies Content Standard 2

Students analyze how people create and change structures of power, authority, and governance to understand the operation of government and to demonstrate civic responsibility.

Rationale

The vitality and continuation of a democratic republic depends upon the education and participation of informed citizens.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
1. explain the purpose and various levels of government.	1. describe the purpose of government and how the powers of government are acquired, maintained and used.	1. analyze the historical and contemporary purpose of government and how the powers of government are acquired, modified, justified and used (e.g., checks and balances, Bill of Rights, court decisions).
2. recognize local, state, tribal and federal governments and identify representative leaders at these levels (e.g., mayor, governor, chairperson, president).	2. identify and describe basic features of the political system in the United States and identify representative leaders from various levels (e.g., local, state, tribal, federal, branches of government).	2. compare and contrast various world political systems (e.g., ideologies, structure, institutions) with that of the United States.
3. identify the major responsibilities of local, state, tribal and federal government.	3. identify the significance of tribal sovereignty and Montana tribal governments' relationship to local, state and federal governments.	3. identify representative political leaders and philosophies from selected historical and contemporary settings.
4. explain how governments provide for needs and wants of people by establishing order and security and managing conflict.	4. analyze and explain governmental mechanisms used to meet the needs of citizens, manage conflict, and establish order and security.	4. relate the concept of tribal sovereignty to the unique powers of tribal governments as they interact with local, state and federal governments.
5. identify and explain the individual's responsibilities to family, peers and the community, including the need for civility, respect for diversity and the rights of others.	5. identify and explain the basic principles of democracy (e.g., Bill of Rights, individual rights, common good, equal opportunity, equal protection of the laws, majority rule).	5a analyze the effectiveness of various systems of government to protect the rights and needs of citizens and balance competing conceptions of a just society. 5b analyze the impact of the Constitution, laws and court decisions on the rights and responsibilities of citizens.
6. describe factors that cause conflict and contribute to cooperation among individuals and groups (e.g., playground issues, misunderstandings, listening skills, taking turns).	6. explain conditions, actions and motivations that contribute to conflict and cooperation within and among groups and nations (e.g., discrimination, peer interaction, trade agreements).	6. analyze and evaluate conditions, actions and motivations that contribute to conflict and cooperation within and among groups and nations (e.g., current events from newspapers, magazines, television).
7. explore the role of technology in communications, transportation, information processing or other areas as it contributes to or helps resolve problems.	7. explain the need for laws and policies governing technology and explore solutions to problems that arise from technological advancements.	7. analyze laws and policies governing technology and evaluate the ethical issues and the impacts of technology on society.

Social Studies Content Standard 3

Students apply geographic knowledge and skills (e.g., location, place, human/environment interactions, movement, and regions).

Rationale

Students gain geographical perspectives on Montana and the world by studying the Earth and how people interact with places. Knowledge of geography helps students address cultural, economic, social, and civic implications of living in various environments.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none"> 1. identify and use various representations of the Earth (e.g., maps, globes, photographs, latitude and longitude, scale). 2. locate on a map or globe physical features (e.g., continents, oceans, mountain ranges, land forms) natural features (e.g., flora, fauna) and human features (e.g., cities, states, national borders). 3. describe and illustrate ways in which people interact with their physical environment (e.g., land use, location of communities, methods of construction, design of shelters). 4. describe how human movement and settlement patterns reflect the wants and needs of diverse cultures. 5. use appropriate geographic resources (e.g., atlases, databases, charts, grid systems, technology, graphs, maps) to gather information about local communities, reservations, Montana, the United States, and the world. 6. identify and distinguish between physical system changes (e.g., seasons, climate, weather, water cycle, natural disasters) and describe the social and economic effects of these changes. 7. describe and compare the ways in which people in different regions of the world interact with their physical environments. 	<ol style="list-style-type: none"> 1. analyze and use various representations of the Earth (e.g., physical, topographical, political maps; globes; geographic information systems; aerial photographs; satellite images) to gather and compare information about a place. 2. locate on a map or globe physical features (e.g., continents, oceans, mountain ranges, land forms) natural features (e.g., flora, fauna) and human features (e.g., cities, states, national borders) and explain their relationships within the ecosystem. 3. analyze diverse land use and explain the historical and contemporary effects of this use on the environment, with an emphasis on Montana. 4. explain how movement patterns throughout the world (e.g., people, ideas, diseases, products, food) lead to interdependence and/or conflict. 5. use appropriate geographic resources to interpret and generate information explaining the interaction of physical and human systems (e.g., estimate distance, calculate scale, identify dominant patterns of climate and land use, compute population density). 6. describe and distinguish between the environmental effects on the earth of short-term physical changes (e.g., floods, droughts, snowstorms) and long-term physical changes (e.g., plate tectonics, erosion, glaciation). 7. describe major changes in a local area that have been caused by human beings (e.g., a new highway, a fire, construction of a new dam, logging, mining) and analyze the probable effects on the community and environment. 	<ol style="list-style-type: none"> 1. interpret, use, and synthesize information from various representations of the Earth (e.g., maps, globes, satellite images, geographic information systems, three-dimensional models). 2. differentiate and analyze the relationships among various regional and global patterns of geographic phenomena, (e.g., land forms, soils, climate, vegetation, natural resources, population). 3. assess the major impacts of human modifications on the environment (e.g., global warming, deforestation, erosion, pollution). 4. analyze how human settlement patterns create cooperation and conflict which influence the division and control of the Earth (e.g., treaties, economics, exploration, borders, religion, exploitation, water rights). 5. select and apply appropriate geographic resources to analyze the interaction of physical and human systems (e.g., cultural patterns, demographics, unequal global distribution of resources) and their impact on environmental and societal changes. 6. Analyze the short-term and long-term effects that major physical changes in various parts of the world have had or might have on the environments (e.g., land use, population, resources). 7. describe and compare how people create places that reflect culture, human needs, government policy, and current values and ideas as they design and build (e.g., buildings, neighborhoods, parks, industrial and agricultural centers, farms/ranches).

Social Studies Content Standard 4

Students demonstrate an understanding of the effects of time, continuity, and change on historical and future perspectives and relationships.

Rationale

Students need to understand their historical roots and how events shape the past, present, and future of the world. In developing these insights, students must know what life was like in the past and how things change and develop over time. Students gain historical understanding through inquiry of history by researching and interpreting historical events affecting personal, local, tribal, Montana, United States, and world history.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none"> 1. identify and use various sources of information (e.g., artifacts, diaries, photographs, charts, biographies, paintings, architecture, songs) to develop an understanding of the past. 2. use a timeline to select, organize, and sequence information describing eras in history. 3. examine biographies, stories, narratives, and folk tales to understand the lives of ordinary people and extraordinary people, place them in time and context, and explain their relationship to important historical events. 4. identify and describe famous people, important democratic values (e.g., democracy, freedom, justice) symbols (e.g., Montana and U.S. flags, state flower) and holidays, in the history of Montana, American Indian tribes, and the United States. 5. identify and illustrate how technologies have impacted the course of history (e.g., energy, transportation, communications). 6. recognize that people view and report historical events differently. 7. explain the history, culture, and current status of the American Indian tribes in Montana and the United States. 	<ol style="list-style-type: none"> 1. interpret the past using a variety of sources (e.g., biographies, documents, diaries, eye-witnesses, interviews, internet, primary source material) and evaluate the credibility of sources used. 2. describe how history can be organized and analyzed using various criteria to group people and events (e.g., chronology, geography, cause and effect, change, conflict, issues). 3. use historical facts and concepts and apply methods of inquiry (e.g., primary documents, interviews, comparative accounts, research) to make informed decisions as responsible citizens. 4. identify significant events and people and important democratic values (e.g., freedom, equality, privacy) in the major eras/civilizations of Montana, American Indian, United States, and world history. 5. identify major scientific discoveries and technological innovations and describe their social and economic effects on society. 6. explain how and why events (e.g., American Revolution, Battle of the Little Big Horn, immigration, Women's Suffrage) may be interpreted differently according to the points of view of participants, witnesses, reporters, and historians. 7. Summarize major issues affecting the history, culture, tribal sovereignty, and current status of the American Indian tribes in Montana and the United States. 	<ol style="list-style-type: none"> 1. select and analyze various documents and primary and secondary sources that have influenced the legal, political, and constitutional heritage of Montana and the United States. 2. interpret how selected cultures, historical events, periods, and patterns of change influence each other. 3. apply ideas, theories, and methods of inquiry to analyze historical and contemporary developments, and to formulate and defend reasoned decisions on public policy issues. 4a analyze the significance of important people, events, and ideas (e.g., political and intellectual leadership, inventions, discoveries, the arts) in the major eras/civilizations in the history of Montana, American Indian tribes, the United States, and the world. 4b analyze issues (e.g., freedom and equality, liberty and order, region and nation, diversity and civic duty) using historical evidence to form and support a reasoned position. 5. analyze both the historical impact of technology (e.g., industrialization, communication, medicine) on human values and behaviors and how technology shapes problem solving now and in the future. 6. investigate, interpret, and analyze the impact of multiple historical and contemporary viewpoints concerning events within and across cultures, major world religions, and political systems (e.g., assimilation, values, beliefs, conflicts). 7. Analyze and illustrate the major issues concerning history, culture, tribal sovereignty, and current status of the American Indian tribes and bands in Montana and the United States (e.g., gambling, artifacts, repatriation, natural resources, language, jurisdiction).

Social Studies Content Standard 5

Students make informed decisions based on an understanding of the economic principles of production, distribution, exchange, and consumption.

Rationale

In a global economy marked by rapid technological and political change, students must learn how to be effective producers, consumers, and economic citizens.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none"> 1. give examples of needs and wants; scarcity and choice (e.g., budgeting of allowance, trading cards). 2. identify basic economic concepts (e.g., supply and demand, price) that explain events and issues in the community. 3. distinguish between private goods and services (e.g., family car or local restaurant) and public goods and services (e.g., interstate highway system or U.S. Postal Service). 4. describe how personal economic decisions, (e.g., deciding what to buy, what to recycle, how much to contribute to people in need) affect the lives of people in Montana, United States, and the world. 5. explain the roles of money, banking, and savings in everyday life. 6. identify and describe examples in which science and technology have affected economic conditions (e.g., assembly line, robotics, internet, media advertising). 	<ol style="list-style-type: none"> 1. identify and explain basic economic concepts (e.g., supply, demand, production, exchange and consumption; labor, wages, and capital; inflation and deflation; and private goods and services). 2. apply economic concepts to explain historical events, current situations, and social issues in local, Montana, tribal, national, or global concerns. 3. compare and contrast the difference between private and public goods and services. 4. analyze how various personal and cultural points of view influence economic decisions (e.g., land ownership, taxation, unemployment). 5. explain and illustrate how money is used (e.g., trade, borrow, save, invest, compare the value of goods and services) by individuals and groups (e.g., businesses, financial institutions, and governments). 6. analyze the influences of technological advancements (e.g., machinery, internet, genetics) on household, state, national and global economies. 	<ol style="list-style-type: none"> 1. analyze the impact that supply and demand, scarcity, prices, incentives, competition, and profits influence what is produced and distributed in various economic systems. 2. use basic economic concepts (e.g., production, distribution, consumption, market economy and command economy) to compare and contrast local, regional, national, and global economies across time and at the present time. 3. assess the costs and benefits to society of allocating goods and services through private and public sectors. 4. compare and contrast how values and beliefs influence economic decisions in different economic systems. 5. explain the operations, rules, and procedures of common financial instruments (e.g., stocks and bonds, retirement funds, IRAs) and financial institutions(credit companies, banks, insurance companies). 6. explain and evaluate the effects of new technology, global economic interdependence, and competition on the development of national policies (e.g., social security system, medicare, other entitlement programs) and on the lives of the individuals and families in Montana, the United States and the world (e.g., international trade, space exploration, national defense).

Social Studies Content Standard 6

Students demonstrate an understanding of the impact of human interaction and cultural diversity on societies.

Rationale

Culture helps us to understand ourselves as both individuals and members of various groups. In a multicultural society, students need to understand multiple perspectives that derive from different cultural vantage points. As citizens, students need to know how institutions are maintained or changed and how they influence individuals, cultures and societies. This understanding allows students to relate to people in Montana, tribes, the United States and throughout the world.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none"> 1. identify the ways groups (e.g., families, faith communities, schools, social organizations, sports) meet human needs and concerns (e.g., belonging, self worth, personal safety) and contribute to personal identity. 2. describe ways in which expressions of culture influence people (e.g., language, spirituality, stories, folktales, music, art, dance). 3. identify and describe ways families, groups, tribes and communities influence the individual's daily life and personal choices. 4. identify characteristics of American Indian tribes and other cultural groups in Montana. 5. identify examples of individual struggles and their influence and contributions (e.g., Sitting Bull, Louis Riel, Chief Plenty Coups, Evelyn Cameron, Helen Keller, Mohandas Gandhi, Rosa Parks). 6. identify roles in group situations (e.g., student, family member, peer member). 	<ol style="list-style-type: none"> 1. compare and illustrate the ways various groups (e.g., cliques, clubs, ethnic communities, American Indian tribes) meet human needs and concerns (e.g., self esteem, friendship, heritage) and contribute to personal identity. 2. explain and give examples of how human expression (e.g., language, literature, arts, architecture, traditions, beliefs, spirituality) contributes to the development and transmission of culture. 3. identify and differentiate ways regional, ethnic and national cultures influence individual's daily lives and personal choices. 4. compare and illustrate the unique characteristics of American Indian tribes and other cultural groups in Montana. 5. explain the cultural contributions of, and tensions between, racial and ethnic groups in Montana, the United States, and the world. 6. identify and describe the stratification of individuals within social groups (e.g., status, social class, haves and have nots). 	<ol style="list-style-type: none"> 1. analyze and evaluate the ways various groups (e.g., social, political, cultural) meet human needs and concerns (e.g., individual needs, common good) and contribute to personal identity. 2. analyze human experience and cultural expression (e.g., language, literature, arts, traditions, beliefs, spirituality, values, behavior) and create a product which illustrates an integrated view of a specific culture. 3. analyze the impact of ethnic, national and global influences on specific situations or events. 4. evaluate how the unique characteristics of American Indian tribes and other cultural groups have contributed to Montana's history and contemporary life (e.g., legal and political relationships between and among tribal, state, and federal governments). 5. analyze the conflicts resulting from cultural assimilation and cultural preservation among various ethnic and racial groups in Montana, the United States and the world. 6. analyze the interactions of individuals, groups and institutions in society (e.g., social mobility, class conflict, globalization).

Social Studies Performance Standards: A Profile of Four Levels

The Social Studies Performance Standards describe students' knowledge, skills and abilities in the social studies content area on a continuum from kindergarten through grade twelve. These descriptions provide a picture or profile of student achievement at the four performance levels—advanced, proficient, nearing proficiency and novice.

<u>Advanced</u>	This level denotes superior performance.
<u>Proficient</u>	This level denotes solid academic performance for each benchmark. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.
<u>Nearing Proficiency</u>	This level denotes that the student has partial mastery or prerequisite knowledge and skills fundamental for proficient work at each benchmark.
<u>Novice</u>	This level denotes that the student is beginning to attain the prerequisite knowledge and skills that are fundamental for work at each benchmark.

Grade 4 Social Studies

Advanced A fourth-grade student at the advanced level in Social Studies demonstrates superior performance. He/she:

- (a) consistently recognizes and follows the steps of an inquiry process to locate, evaluate, and thoughtfully use information in decision making;
- (b) clearly describes the purpose and various levels of government in our lives;
- (c) effectively practices citizenship rights and responsibilities across various communities;
- (d) consistently applies geographic knowledge to other subject areas and independently relates geographic understandings to the world around him/her in meaningful ways;
- (e) consistently locates and applies information of historical events and issues from a variety of sources to effectively explain connections between past and present;
- (f) consistently identifies basic economic principles and clearly describes their effects on individuals and communities; and
- (g) independently recognizes and clearly describes how culture influences and diversity contributes to human development, identity, and behavior.

Proficient A fourth-grade student at the proficient level in Social Studies demonstrates solid academic performance. He/she:

- (a) recognizes and follows the steps of an inquiry process to locate, evaluate and use information in decision making roles;
- (b) describes the purpose and various levels of government in our lives;
- (c) practices citizenship rights and responsibilities across various communities;
- (d) applies basic geographic knowledge to other subject areas and relates geographic understanding to the world around him/her;
- (e) locates and uses basic information of historical events to explain connections between past and present;
- (f) identifies basic economic principles and describes their general effects on individuals and communities; and
- (g) recognizes and describes how culture influences and diversity contributes to human development, identity, and behavior.

Nearing Proficiency A fourth-grade student at the nearing proficiency level demonstrates a partial mastery of prerequisite knowledge and skills fundamental for proficiency in Social Studies. He/she:

- (a) recognizes and follows some of the steps of an inquiry process to locate and use information in decision making, but has difficulty evaluating the quality of the information;
- (b) identifies, with assistance, the purpose and some of the levels of government in our lives;
- (c) practices citizenship rights and responsibilities across various communities;
- (d) sometimes applies geographic knowledge to other subject areas and relates obvious geographic knowledge to the world around him/her;
- (e) locates and sometimes uses basic information of historical events to explain obvious connections between past and present;
- (f) sometimes identifies basic economic principles, but incompletely describes their obvious effects on individuals and communities; and
- (g) sometimes recognizes, but has difficulty explaining, how culture influences and diversity contributes to human development, identity, and behavior.

Novice A fourth-grade student at the novice level is beginning to attain prerequisite knowledge and skills that are fundamental at each benchmark in Social Studies. He/she:

- (a) sometimes recognizes and follows some of the steps of an inquiry process to locate information, but needs much assistance to evaluate the quality of information or to use it in decision making;
- (b) seldom identifies the purpose or levels of government in our lives;
- (c) has difficulty practicing citizenship rights and responsibilities in the classroom community;
- (d) sometimes identifies geographic knowledge but often is unable to relate this knowledge to other subject areas and usually needs assistance relating geographic knowledge to the world around him/her;
- (e) locates, but seldom uses, basic information of historical events and has difficulty explaining connections between past and present;
- (f) seldom identifies economic principles but, with assistance, describes some of the effects on individuals and communities; and
- (g) seldom recognizes how culture influences and diversity contributes to human development, identity and behavior.

Grade 8 Social Studies

Advanced An eighth-grade student at the advanced level in Social Studies demonstrates superior performance. He/she:

- (a) consistently and effectively applies an inquiry process to locate, evaluate, and use in a variety of decision making situations;
- (b) clearly describes and compares the principles and structure of power, authority, and governance;
- (c) purposefully practices citizenship rights and responsibilities across various communities;
- (d) actively explores geographic information and problems, and proposes novel, well-articulated ideas and solutions by independently applying geographic skills and tools;
- (e) consistently conducts research to draw unique parallels between historical and current events and issues;
- (f) independently recognizes fundamental economic issues and thoroughly illustrates how they interrelate and affect families, communities, cultures and nations; and
- (g) critically examines and effectively compares and contrasts how culture influences and diversity contributes to human development, identity, and behavior.

Proficient An eighth-grade student at the proficient level in Social Studies demonstrates solid academic performance. He/she:

- (a) applies an inquiry process to locate, evaluate, and use information in a variety of decision making scenarios;
- (b) describes and compares the principles and structure of power, authority, and governance;
- (c) practices citizenship rights and responsibilities across various communities;
- (d) effectively seeks information, solves problems, and communicates findings using geographic skills and tools;
- (e) conducts appropriate research to draw reasonable parallels between historical and current events and issues;

(f) recognizes fundamental economic issues and meaningfully illustrates how they interrelate and affect families, communities, cultures, and nations; and

(g) examines and compares and contrasts how culture influences and diversity contributes to human development, identity, and behavior.

Nearing Proficiency An eighth-grade student at the nearing proficiency level demonstrates a partial mastery of prerequisite knowledge and skills fundamental for proficiency in Social Studies. He/she:

(a) applies an inquiry process to locate information for use in limited decision making scenarios, but has difficulty evaluating the information;

(b) describes, but with difficulty, compares the principles and structure of power, authority, and governance;

(c) with assistance practices citizenship rights and responsibilities across various communities;

(d) gathers information related to geographic problems with assistance, but has difficulty using geographic skills and tools to communicate findings;

(e) sometimes conducts appropriate research and, with assistance, draws parallels between historical and current events and issues;

(f) frequently recognizes fundamental economic issues and, with assistance, illustrates how they interrelate and affect families, communities, cultures, and nations; and

(g) explains and sometimes compares how culture influences and diversity contributes to human development, identity, and behavior.

Novice An eighth-grade student at the novice level is beginning to attain prerequisite knowledge and skills that are fundamental at each benchmark in Social Studies. He/she:

(a) sometimes applies an inquiry process to locate information for use in limited decision making scenarios, and seldom evaluates the information;

(b) sometimes describes, but seldom compares, the principles and structure of power, authority and governance;

(c) seldom practices citizenship rights and responsibilities;

(d) inconsistently locates required geographic information, has difficulty relating this information to a larger geographic problem, and does not clearly understand when to apply specific geographic skills and tools to his/her work;

(e) seldom conducts appropriate research, but with assistance, draws a few obvious parallels between historical and current events;

(f) sometimes recognizes fundamental economic issues but seldom illustrates how they interrelate and affect families, communities, cultures, and nations; and

(g) sometimes explains, but seldom compares, how culture influences and diversity contributes to human development, identity, and behavior.

Upon Graduation Social Studies

Advanced A graduating student at the advanced level in Social Studies demonstrates superior performance. He/she:

(a) independently analyzes and adapts an inquiry process to locate and evaluate information from a variety of sources and effectively applies that information to various decision making situations;

(b) effectively analyzes and critiques the principles and structure of power, authority, and governance;

(c) independently demonstrates civic responsibility by participating meaningfully as a citizen in the process;

(d) makes meaningful geographic inferences in a variety of contexts and independently conducts geography-related research to develop and extensively support a position on an issue;

(e) consistently analyzes historical patterns and conducts independent research to thoroughly and effectively develop and defend a position on an issue;

(f) analyzes unique impacts of the application of economic principles on decision making in national and global economies;

and

(g) independently analyzes and critiques the impact of human interaction on society and purposefully evaluates the effects of cultural diversity on individuals and society.

Proficient A graduating student at the proficient level in Social Studies demonstrates solid academic performance. He/she:

(a) analyzes and adapts an inquiry process to locate and evaluate information from a variety of sources and applies that information to various decision making situations;

(b) analyzes and critiques the principles and structure of power, authority and governance;

(c) demonstrates civic responsibility by participating meaningfully as a citizen across various communities;

(d) makes meaningful geographic inferences and actively conducts geography-related research to develop and adequately support a position on an issue;

(e) analyzes historical patterns and conducts research to develop and adequately defend a position on an issue;

(f) analyzes various impacts of the application of economic principles on decision making in national and global economies; and

(g) analyzes and critiques the impact of human interaction on society and evaluates the effects of cultural diversity on individuals and society.

Nearing Proficiency A graduating student at the nearing proficiency level demonstrates a partial mastery of prerequisite knowledge and skills fundamental for proficiency in Social Studies. He/she:

(a) usually analyzes and adapts an inquiry process to locate information from a variety of sources, incompletely evaluates information, and with limited success, applies the information to various decision making situations;

(b) sometimes analyzes, but ineffectively critiques the principles and structure of power, authority and governance;

(c) occasionally demonstrates civic responsibility by participating as a citizen across various communities;

(d) sometimes makes meaningful geographic inferences but has difficulty conducting geography-related research to develop and support a position on an issue;

(e) identifies some historical patterns, and with assistance, conducts research to develop and partially defend a position on an issue;

(f) sometimes analyzes obvious impacts of the application of economic principles on decision making in national and global economies; and

(g) sometimes analyzes and critiques the impact of human interaction on society and evaluates the obvious effects of cultural diversity on individuals and society.

Novice A graduating student at the novice level is beginning to attain prerequisite knowledge and skills that are fundamental at each benchmark in Social Studies. He/she:

(a) inconsistently uses and seldom analyzes or adapts an inquiry process to locate information even from limited sources, evaluates information, with assistance, and rarely applies information to decision making situations;

(b) incompletely analyzes, and with difficulty, critiques the principles and structure of power, authority and governance;

(c) demonstrates limited civic responsibility;

(d) seldom makes meaningful geographic inferences and requires assistance conducting geography-related research to develop and support a position on an issue;

(e) sometimes identifies historical patterns, and with assistance, conducts research, but has difficulty developing or defending a position on an issue;

(f) analyzes, with much assistance, obvious impacts of the application of economic principles on decision making in national and global economies; and

(g) seldom analyzes the impact of human interaction on society and exhibits limited ability to evaluate the effects of cultural diversity on individuals and society.

Montana K-12 Workplace Competencies Content Standards Framework



opi.mt.gov

Adopted by the Montana Board of Public Education
October 2000

MONTANA STANDARDS FOR WORKPLACE COMPETENCIES

Due to the explosive growth of technology and the globalization of commerce and industry, today's workplace demands that workers work smarter not harder. Thus, schools must help students acquire workplace skills by assisting them in developing the necessary intellectual abilities and personal traits that help them to secure and maintain employment in the business world. Schools should encourage students to use creative and critical thinking skills, which are transferrable from the classroom to the workplace and to the community.

In the schools, these workplace skills must build upon the basic skills, higher order thinking, and the practice of personal qualities that emphasize such things as respect and responsibility. Also, these workplace skills need to be taught and understood in an environment that accurately represents the realities of today's workplace.

Content Standards indicate what all students should know, understand and be able to do in a specific content area.

Benchmarks define our expectations for students' knowledge, skills and abilities along a developmental continuum in each content area. That continuum is focused at three points—at the end of grade 4, the end of grade 8, and grade 12.

Content Standard 1—Workplace Resources—Students identify, organize, plan, and allocate workplace resources of time, money, materials, facilities, and human resources.

Content Standard 2—Interpersonal Workplace Skills—Students acquire and demonstrate interpersonal workplace skills.

Content Standard 3—Workplace Information—Students acquire and use workplace information.

Content Standard 4—Workplace Systems—Students demonstrate an understanding of how social, organizational and technological systems work.

Content Standard 5—Workplace Technology—Students work safely with a variety of workplace technologies.

Content Standard 6—Workplace Readiness/Life & Career Planning—Students acquire and demonstrate skills in life and career planning and workplace readiness.

Workplace Competencies Content Standard 1

Workplace Resources—Students identify, organize, plan, and allocate workplace resources of time, money, materials, facilities, and human resources.

Rationale

In order to be productive members of society, students must be able to manage workplace resources.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. manage time effectively (e.g., assignment notebook, calendar).2. use basic monetary skills.3. acquire, store, allocate, and use materials or space (e.g., supplies, notebook).4. manage personal resources.	<ol style="list-style-type: none">1. create and manage plans/schedules with specific timelines that take into account constraints, priorities, and goals.2. practice maintaining personal financial records.3. acquire, store, allocate, and use materials or space.4. manage personal and team resources to achieve personal and team goals.	<ol style="list-style-type: none">1. select goal-relevant activities, rank them, allocate time, and prepare and follow schedules.2. use or prepare budgets, make forecasts, keep records, make adjustments to meet objectives, and evaluate financial records.3. allocate and evaluate time, materials, facilities and resources to set and achieve goals.4. assess skills and distribute work accordingly, evaluate performance and provide feedback toward the accomplishment of personal and team goals.

Workplace Competencies Content Standard 2

Interpersonal Workplace Skills—Students acquire and demonstrate interpersonal workplace skills.

Rationale

Interpersonal skills play a major role in workplace success. It is essential that an individual has the ability to:

- *participate as a member of a team;*
- *teach others new skills;*
- *exercise leadership;*
- *negotiate/compromise;*
- *work with individual differences and cultural diversity; and*
- *serve clients and customers.*

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. practice one's role as an active and cooperative team player while recognizing individual differences and cultural diversity (e.g., be accountable for one's actions).2. demonstrate a learned skill to peers (e.g., give a "how to" demonstration).3. identify and practice leadership skills (e.g., team leader, class officer, class job).4. identify and practice negotiation skills and conflict resolution in structured situations.5. practice basic customer and electronic etiquette (e.g., role-play, order from a menu, appropriate e-mail language).	<ol style="list-style-type: none">1. use a variety of skills to work as a member of a team while recognizing individual differences and cultural diversity (e.g., listening skills).2. demonstrate a learned skill and teach others.3. demonstrate leadership skills by making positive use of rules, regulations and policies of schools and communities.4. work toward agreements that include exchanging specific resources or resolving divergent interests in structured and unstructured situations.5. practice positive interpersonal communication skills (e.g., customer service, electronic etiquette, community service project).	<ol style="list-style-type: none">1. practice various roles required as a member of an effective team while recognizing individual differences and cultural diversity.2. demonstrate and teach a learned skill including performance evaluation of self and others in this process.3. communicate ideas to justify position, persuade and convince others, and responsibly challenge existing procedures and policies.4. practice and evaluate negotiating process including researching, goal setting, presenting, listening, clarifying, adjusting and compromising.5. practice and evaluate positive service skills (e.g., resolving misunderstandings, consumer complaints).

Workplace Competencies Content Standard 3

Workplace Information—Students acquire and use workplace information.

Rationale

Students must be able to use information from a variety of resources to assist them in making informed workplace decisions. A student must be able to: acquire, evaluate, and interpret data; organize and maintain; process and communicate workplace information using current technologies.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
1. identify a variety of sources that provide workplace information.	1. identify the need for and obtain data in order to make informed decisions in the workplace.	1. gather, compile and analyze data from a variety of sources, and evaluate relevance and accuracy in making informed decisions in the workplace.
2. organize information using systematic methods (e.g., assignment book, alphabetizing, calendar).	2. organize and maintain written or computerized records using systematic methods.	2. organize, process, analyze, and maintain written and computerized records and other forms of information using systematic methods.
3. use a variety of methods (e.g., oral, written, graphic, pictorial, multimedia) to complete a task.	3. select and present information using a variety of methods (e.g., oral, written, graphic, pictorial, multimedia).	3. select, analyze, and present information using a variety of methods (e.g., oral, written, graphic, pictorial, multimedia).
4. access and organize information from print and electronic sources.	4. acquire, organize, communicate, process, and analyze information from print and electronic sources.	4. acquire, organize, communicate, process, analyze and evaluate information from print and electronic sources.

Workplace Competencies Content Standard 4

Workplace Systems—Students demonstrate an understanding of how social, organizational, and technological systems work.

Rationale

A system is a set of related parts that together form a whole designed to accomplish a purpose. Complex social systems (e.g., family, community group), organizational systems (e.g., government, school, workplace), and technological systems (e.g., computer network communications) impact outcomes in the workplace. Students must understand these systems and system relationships and function effectively within them. Students must use knowledge/experiences to:

- *Understand how systems relate to achieving goals;*
- *Demonstrate competence in monitoring and correcting a system's performance;*
- *Provide input to alter/improve existing systems or develop new systems; and*
- *Use analytical skills to design creative solutions.*

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
1. identify components of family, school, and community systems encountered in daily life.	1. describe and illustrate a system (e.g., relationships among self, family, school, community).	1. evaluate quality and performance of a variety of systems (e.g., impact of technology on production).
2. identify and model how components of systems interact (e.g., role-play, class jobs).	2. analyze how a system works (i.e., input, process, output, feedback, performance improvement).	2. practice and analyze principles of successful system management considering external factors and planning for uncontrolled variables (e.g., balance professional and personal lives).
3. work within a system (e.g., team, study group, group structure, classroom rules, mechanical model).	3. design and work within a system (e.g., committees, student council, mock government, simple electrical circuit) to manage, control, and improve performance.	3. design, evaluate, and refine a system composed of subsystems (e.g., community service project, peer mediation, web page design).

Workplace Competencies Content Standard 5

Workplace Technology—Students work safely with a variety of workplace technologies.

Rationale

The students must be able to select technology, safely apply technology, maintain, and troubleshoot equipment.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. identify and select information sources using technology.2. solve problems both individually and with others.3. prevent or identify and solve problems using technology.4. discriminate between responsible and irresponsible use of technology.5. identify and demonstrate appropriate care of technological tools.	<ol style="list-style-type: none">1. use technology for learning, communications, and productivity.2. use technology to observe, analyze, interpret, and draw conclusions.3. prevent or identify and solve problems using technology.4. acknowledge others' rights and practice responsible use of technology.5. manage and maintain technological tools and follow troubleshooting protocol.	<ol style="list-style-type: none">1. choose procedures and technology to complete a task.2. create new knowledge by evaluating, combining, and extending information using multiple technologies.3. prevent or identify and solve problems using technology.4. practice and advocate ethical behavior in the use of technology.5. manage and maintain technological systems and follow troubleshooting protocol.

Workplace Competencies Content Standard 6

Workplace Readiness/Life & Career Planning—Students acquire and demonstrate skills in life and career planning and workplace readiness.

Rationale

The foundation for a rewarding life and productive employment is built through exploration and an understanding of life and career choices.

Benchmarks

Students will:

End of Grade 4	End of Grade 8	Upon Graduation—End of Grade 12
<ol style="list-style-type: none">1. describe how current learning relates to life and career development.2. demonstrate positive ways of performing work activities.3. describe how decisions affect self and others.4. describe various lifetime roles (e.g., friend, student, leader, worker, family member).5. explore and discuss a variety of occupational clusters (e.g., health, science) and their contributions to society.6. describe and demonstrate the importance of personal goal setting and planning.	<ol style="list-style-type: none">1. identify how the skills taught in school subjects are used in various life roles and occupations.2. demonstrate personal qualities (e.g., dependability, punctuality, cooperation) that are needed to get and keep jobs.3. identify possible outcomes and consequences of decisions.4. recognize and describe the interrelationships of lifetime roles of family, community, work, and leisure.5. locate, explore, and evaluate a variety of occupations not limited by stereotypes, bias or traditional roles.6. explore and identify personal interests, aptitudes and abilities and develop strategies to achieve tentative life and career goals.	<ol style="list-style-type: none">1. describe how skills developed in academic and occupational programs relate to life and career planning.2. display workplace readiness skills (e.g., responsibility, sociability, self-management, job-seeking skills).3. demonstrate decision-making and problem-solving skills.4. describe and evaluate life and career choices and the effect on family and lifestyle.5. discuss and demonstrate strategies to overcome bias and stereotyping in the workplace.6. develop, evaluate, and adjust life and career plans.

Workplace Competencies Performance Standards: A Profile of Four Levels

The Workplace Competencies Performance Standards describe students' knowledge, skills and abilities in the workplace competencies content area on a continuum from kindergarten through grade twelve. These descriptions provide a picture or profile of student achievement at the four performance levels—advanced, proficient, nearing proficiency and novice.

<u><i>Advanced</i></u>	This level denotes superior performance.
<u><i>Proficient</i></u>	This level denotes solid academic performance for each benchmark. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.
<u><i>Nearing Proficiency</i></u>	This level denotes that the student has partial mastery or prerequisite knowledge and skills fundamental for proficient work at each benchmark.
<u><i>Novice</i></u>	This level denotes that the student is beginning to attain the prerequisite knowledge and skills that are fundamental for work at each benchmark.

Grade 4 Workplace Competencies

Advanced A fourth-grade student at the advanced level in Workplace Competencies demonstrates superior performance. He/she:

- (a) consistently applies basic management tools effectively to plan the use of personal resources;
- (b) purposefully practices leadership skills and is an effective team member;
- (c) consistently locates, organizes, and presents workplace information using a variety of print and electronic sources;
- (d) consistently identifies group members and defines their roles within a system;
- (e) consistently demonstrates understanding of the overall operations and practices responsible, safe use of appropriate technologies; and
- (f) clearly describes various lifetime roles and consistently demonstrates positive ways to perform work activities.

Proficient A fourth-grade student at the proficient level in Workplace Competencies demonstrates solid academic performance. He/she:

- (a) applies basic management tools to plan the use of personal resources;
- (b) practices leadership skills and is an effective team member;
- (c) locates, organizes, and presents workplace information using a variety of print and electronic sources;
- (d) identifies group members and defines their roles within a system;
- (e) demonstrates understanding of the overall operations and practices responsible, safe use of appropriate technologies; and
- (f) describes various lifetime roles and demonstrates positive ways to perform work activities.

Nearing Proficiency A fourth-grade student at the nearing proficiency level in Workplace Competencies demonstrates partial mastery of the prerequisite knowledge and skills fundamental for proficiency in Workplace Competencies. He/she:

- (a) sometimes applies basic management tools to plan the use of personal resources;
- (b) sometimes practices leadership skills and with assistance is an effective team member;
- (c) locates workplace information from a variety of print and electronic sources, but has difficulty organizing workplace information and is uncomfortable making presentations;
- (d) identifies group members and sometimes defines their roles within a system;
- (e) demonstrates understanding of some of the basic operations and, with assistance, practices responsible use of appropriate technologies; and
- (f) sometimes describes various lifetime roles and, with assistance, demonstrates positive ways to perform work activities.

Novice A fourth-grade student at the novice level in Workplace Competencies is beginning to attain the prerequisite knowledge and skills that are fundamental in Workplace Competencies. He/she:

- (a) seldom applies basic management tools to plan the use of personal resources;
- (b) rarely practices leadership skills but is sometimes an effective team member;
- (c) sometimes locates workplace information from a variety of print and electronic sources, but rarely organizes or presents workplace information;
- (d) sometimes identifies group members, but seldom defines their roles within a system;
- (e) demonstrates a limited understanding of the basic operations, but seldom practices responsible use of appropriate technologies; and
- (f) sometimes describes various lifetime roles, but seldom demonstrates positive ways to perform work activities.

Grade 8 Workplace Competencies

Advanced An eighth-grade student at the advanced level in Workplace Competencies demonstrates superior performance. He/she:

- (a) consistently selects and uses a variety of tools to practice time, money, and space management;
- (b) consistently recognizes and practices workplace skills and effectively uses a variety of leadership styles to cooperatively participate as a team member;
- (c) independently uses computers to acquire, organize, process, and analyze information to make informed decisions;
- (d) effectively designs, implements, and evaluates a simple system;
- (e) uses technological skills effectively to create original work, solve problems, including troubleshooting, and evaluate the results; and
- (f) consistently applies personal interests, aptitudes, abilities, and work ethics to daily life and develops strategies to plan life and career goals.

Proficient An eighth-grade student at the proficient level in Workplace Competencies demonstrates solid academic performance. He/she:

- (a) prepares and works with a variety of tools to practice time, money and space management;
- (b) recognizes and practices workplace skills and uses a variety of leadership styles to cooperatively participate as a team member;
- (c) uses computers to acquire, organize, process, and analyze information to make informed decisions;
- (d) designs, implements, and evaluates a simple system;
- (e) uses technological skills to create original work, solve problems, including troubleshooting, and evaluate the results; and
- (f) applies personal interests, aptitudes, abilities, and work ethics to daily life and develops strategies to plan life and career goals.

Nearing Proficiency: (1) An eighth-grade student at the nearing proficiency level in Workplace Competencies demonstrates partial mastery of the prerequisite knowledge and skills fundamental for proficiency in Workplace Competencies. He/she:

- (a) sometimes prepares and works with a variety of tools to practice time, money and space management.
- (b) recognizes and practices workplace skills and uses some leadership styles to cooperatively participate as a team member.
- (c) uses computers to acquire and organize information, but needs assistance to analyze information and make informed decisions.
- (d) sometimes designs and implements a simple system, but has difficulty evaluating system performance.
- (e) sometimes uses technological skills to create original work and, with assistance, solve problems, but has difficulty evaluating the results.
- (f) sometimes recognizes how the connections among personal interests, aptitudes, abilities, and work ethics help to plan life and career goals.

Novice An eighth-grade student at the novice level in Workplace Competencies is beginning to attain the prerequisite knowledge and skills that are fundamental in Workplace Competencies. He/she:

- (a) seldom practices or uses a variety of tools to practice time, money, and space management;
- (b) recognizes, but has difficulty practicing, workplace skills, and seldom uses any leadership styles to participate as a team member;
- (c) sometimes uses computers to acquire information, but has difficulty organizing and analyzing information;
- (d) sometimes designs and implements a simple system, but seldom evaluates system performance;
- (e) sometimes, with assistance, uses technological skills to solve problems, but seldom evaluates the results; and
- (f) recognizes, but has a limited understanding of, how personal interests, aptitudes, abilities, and work ethics help to plan life and career goals.

Upon Graduation Workplace Competencies

Advanced A graduating student at the advanced level in Workplace Competencies demonstrates superior performance. He/she:

- (a) independently identifies, organizes, plans and allocates workplace resources of time, money, human resources, material and facilities;
- (b) consistently practices workplace skills to identify, analyze, and evaluate procedures, policies, and individual team members' strengths;
- (c) competently communicates, interprets, and evaluates information;

- (d) independently evaluates and redesigns a variety of complex systems to improve system performance;
- (e) consistently selects, uses, and evaluates appropriate technologies and troubleshooting protocol in all learning situations; and
- (f) purposefully develops, evaluates and adjusts life and career plans and effectively demonstrates workplace readiness skills.

Proficient A graduating student at the proficient level in Workplace Competencies demonstrates solid academic performance. He/she:

- (a) identifies, organizes, plans and allocates workplace resources of time, money, human resources, material and facilities;
- (b) practices workplace skills to identify, analyze, and evaluate procedures, policies, and individual team members' strengths;
- (c) competently communicates, interprets, and evaluates information;
- (d) evaluates and redesigns a variety of complex systems to improve system performance;
- (e) selects, uses, and evaluates appropriate technologies and troubleshooting protocol in all learning situations; and
- (f) develops, evaluates and adjusts life and career plans and demonstrates workplace readiness skills.

Nearing Proficiency A graduating student at the nearing proficiency level in Workplace Competencies demonstrates partial mastery of the prerequisite knowledge and skills fundamental for proficiency in Workplace Competencies. He/she:

- (a) sometimes identifies, organizes and plans workplace resources of time, money, human resources, material and facilities, but has difficulty allocating these resources effectively;
- (b) sometimes practices workplace skills to identify and analyze procedures, policies, and individual team members' strengths; and, with assistance, evaluates the results;
- (c) communicates basic workplace information and, with assistance, interprets and evaluates basic workplace information;
- (d) sometimes evaluates and with assistance redesigns a system to improve system performance;
- (e) sometimes selects and uses appropriate technologies in learning situations and, with assistance, uses troubleshooting protocol; and
- (f) develops life and career plans and, with assistance, evaluates and makes adjustments; demonstrates workplace readiness skills.

Novice A graduating student at the proficient level in Workplace Competencies is beginning to attain the prerequisite knowledge and skills that are fundamental in Workplace Competencies. He/she:

- (a) identifies, but has difficulty organizing, planning, or allocating workplace resources of time, money, human resources, material and facilities;
- (b) seldom practices workplace skills;
- (c) seldom communicates, interprets, or evaluates information;
- (d) seldom evaluates and has difficulty redesigning a basic system to improve system performance;
- (e) seldom selects or uses technologies or troubleshooting protocol in learning situations; and
- (f) rarely develops, evaluates, or adjusts life and career plans; but, with assistance, demonstrates workplace readiness skills.

Montana K-12 World Languages Content Standards Framework



opi.mt.gov

Adopted by the Montana Board of Public Education
October 1999

MONTANA STANDARDS FOR WORLD LANGUAGES

To relate in a meaningful way to another human being one must be able to communicate. Studying world languages, whether modern, classical or Native American, enormously increases one's ability to understand culture and to see connections.

These standards reflect the reality of language offerings in Montana today, and also envision the future of world languages for Montana's students in K-12 language learning programs. All students are capable of learning a second language. Language learning should start early and be a sequential process leading to enjoyable lifelong learning. The earlier a student begins language learning, the more proficient the learner becomes.

Language and communication are at the heart of the human experience. [Montana] must educate students who are equipped linguistically and culturally to communicate successfully in a pluralistic American society and abroad. This imperative envisions a future in which ALL students will develop and maintain proficiency in English and at least one other language, modern or classical. Children who come to school from non-English-speaking backgrounds should also have opportunities to develop further proficiencies in their first language. To study another language and culture gives one the powerful key to successful communication: Knowing how, when, and why to say what to whom. (From Standards for Foreign Language Learning: Preparing for the 21st Century, EMC Publishing, 1996.)

Classical languages and some American Indian languages will often have a different communication focus than modern languages. The standards and benchmarks, designed to encompass all aspects of language learning, are applied as they fit the recognized purpose of the study of a particular language. Oral proficiency is not the major outcome of studying a classical language nor are reading and writing primary outcomes in learning all American Indian languages.

COMMUNICATION

- Content Standard 1—Students engage in conversation, provide and obtain information, express feelings and emotions, and exchange opinions.
- Content Standard 2—Students understand and interpret spoken and/or written language on a variety of topics.
- Content Standard 3—Students convey information, concepts, and ideas to listeners and/or readers for a variety of purposes.

CULTURES

- Content Standard 4—Students demonstrate an understanding of the relationship between the perspectives, practices, and products/contributions of cultures studied, and use this knowledge to interact effectively in cultural contexts.

CONNECTIONS

- Content Standard 5—Students reinforce and increase his/her knowledge of other disciplines through world languages.
- Content Standard 6—Students acquire information and perspectives through authentic materials in world languages and within cultures.

COMPARISONS

- Content Standard 7—Students recognize that different languages use different patterns and can apply this knowledge to his/her own language.
- Content Standard 8—Students demonstrate understanding of the concept of culture through comparisons of the culture studied and his/her own.

COMMUNITIES

- Content Standard 9—Students apply language skills and cultural knowledge in daily life.

Content Standards indicate what all students should know, understand and be able to do in a specific content area.

Benchmarks define our expectations for students' knowledge, skills, and abilities along a developmental continuum in each content area. That continuum is focused at three points.

Communication

World Languages Content Standard 1

Rationale

Montana students must be able to interact appropriately with members of other societies to interpret and exchange their ideas and opinions.

Students engage in conversation, provide and obtain information, express feelings and emotions, and exchange opinions.

Benchmarks

Students will:

End of Benchmark I	End of Benchmark II	End of Benchmark III
1. express feelings, likes, and dislikes.	1. qualify feelings, likes, and dislikes.	1. exchange personal ideas and support them.
2. respond in one-on-one interactions.	2. exchange information using appropriate gestures.	2. initiate, sustain, and conclude conversations appropriate to the setting on a variety of topics.
3. create simple descriptions of people and things within a context.	3. create detailed descriptions within a context.	3. create more elaborate descriptions and add opinions.
4. express agreement and disagreement.	4. describe a problem and suggest and recommend solutions.	4. collaborate and compromise to develop, propose, and negotiate solutions.
5. express basic needs.	5. elaborate on needs and interact in basic survival situations.	5. manage unforeseen situations.

World Languages Content Standard 2

Students understand and interpret spoken and/or written language on a variety of topics.

Benchmarks

Students will:

End of Benchmark I	End of Benchmark II	End of Benchmark III
<ol style="list-style-type: none">1. identify people and objects using aural, visual, and contextual cues.2. comprehend and respond appropriately to simple oral and written communications.3. read and respond to developmentally appropriate material and identify the main idea.	<ol style="list-style-type: none">1. respond appropriately to complex aural, visual, written, or contextual cues.2. comprehend and respond appropriately to complex oral and written communications.3. interpret the main idea and significant details from authentic materials and literary samples.	<ol style="list-style-type: none">1. analyze information based on complex aural, visual, written, or contextual cues.2. comprehend and respond appropriately to oral and written communications intended for native speakers.3. interpret and analyze relationships, sequences, mood, cause and effect, and applied meaning in authentic materials and literary samples.

Communication

World Languages Content Standard 3

Students convey information, concepts, and ideas to listeners and/or readers for a variety of purposes.

Benchmarks

Students will:

End of Benchmark I	End of Benchmark II	End of Benchmark III
<ol style="list-style-type: none">1. give directions, commands, and instructions.2. give a description orally and/or in writing using simple phrases.3. write a personal communication (e.g., note, letter, invitation).4. summarize main idea of selected authentic and/or contextualized material.	<ol style="list-style-type: none">1. explain a process based on prior knowledge and/or experience.2. give a description orally and/or in writing using complex sentences.3. produce formal and informal written and/or oral communication.4. interpret information from authentic material for an audience.	<ol style="list-style-type: none">1. explain a complex process incorporating detailed instructions.2. give a description orally and in writing using complex, detailed paragraphs.3. produce a written sample to convey a mood, implied meaning, or abstract idea.4. create an analysis of authentic media or literary samples and present it to an audience.

Cultures

World Languages Content Standard 4

Rationale

Montana students need to develop an awareness of other people's world views, their contributions and their unique way of life. The study of another language enables students to understand a different culture on its own terms.

Students demonstrate an understanding of the relationship between the perspectives, practices, and products/contributions of cultures studied, and use this knowledge to interact effectively in cultural contexts.

Benchmarks

Students will:

End of Benchmark I	End of Benchmark II	End of Benchmark III
1. identify significant cultural perspectives and practices.	1. describe cultural characteristics and behaviors of everyday life (e.g., social and geographic factors).	1. analyze the development of different cultural practices (e.g., social and geographic factors).
2. recognize and interpret language and behaviors that reflect the culture.	2. produce language and behaviors appropriate to the culture.	2. apply language and behaviors that reflect the culture in an authentic situation.
3. identify objects, images, symbols, products, and other contributions of the culture.	3. explain objects, images, symbols, products, and other contributions of the culture.	3. analyze and evaluate the cultural significance of objects, images, symbols, products, and other contributions of the culture.
4. identify the expressive forms of the culture (e.g., architecture, music, dance).	4. describe and discuss the expressive forms of the culture (e.g., art, architecture, music, dance).	4. analyze and evaluate the expressive forms of the culture (e.g., art, architecture, music, dance).

Connections

World Languages Content Standard 5

Rationale

Knowledge is power, and extending access to information through the use of a world language increases students' ability to "know and do." Using a world language to acquire information empowers students with knowledge, no matter what the topic or discipline. It also provides learners with skills, interests, and insights beyond the limits of their formal educational experiences.

Students reinforce and increase his/her knowledge of other disciplines through world languages.

Benchmarks

Students will:

End of Benchmark I	End of Benchmark II	End of Benchmark III
1. identify and apply, within a familiar context, information and skills shared by the language classroom and other disciplines.	1. transfer and apply, within a designated context, information and skills common to the language classroom and other disciplines.	1. apply, within an unfamiliar context, information and skills common to the language classroom and other disciplines.
2. identify, through world language resources, information for use in other disciplines.	2. analyze information gathered through world language resources for use in other disciplines.	2. locate authentic language resources and synthesize information for use in other disciplines.

World Languages Content Standard 6

Students acquire information and perspectives through authentic materials in world languages and within cultures.

Benchmarks

Students will:

End of Benchmark I	End of Benchmark II	End of Benchmark III
1. gather information from sources intended for native speakers of the language.	1. analyze and apply information from sources intended for native speakers of the language.	1. acquire and synthesize information from sources intended for native speakers of the language.
2. use authentic sources to identify perspectives of world cultures.	2. use authentic sources to analyze perspectives of world cultures.	2. use authentic sources to synthesize perspectives of world cultures.

Comparisons

World Languages Content Standard 7

Rationale

Students gain insights into the nature of language and culture by making comparisons.

Students recognize that different languages use different patterns and can apply this knowledge to his/her own language.

Benchmarks

Students will:

End of Benchmark I	End of Benchmark II	End of Benchmark III
1. identify sound patterns of the target language and compare them to the student's own language.	1. apply, within limited contexts, sound patterns of the target language.	1. apply, in a variety of contexts, sound patterns of the target language.
2. identify structural patterns of the target language.	2. apply, within limited contexts, structural patterns of the target language.	2. use knowledge of structural patterns in both the target language and the student's own language to communicate effectively.
3. identify idiomatic expressions of the target language.	3. compare and contrast idiomatic expressions of the target language and the student's own language.	3. use idiomatic expressions of the target language in the correct context.
4. identify connections among languages.	4. explain the changing nature of languages.	4. describe how languages influence each other.

World Languages Content Standard 8

Students demonstrate understanding of the concept of culture through comparisons of the culture studied and his/her own.

Benchmarks

Students will:

End of Benchmark I	End of Benchmark II	End of Benchmark III
1. recognize similarities and differences, including behavior patterns, among target cultures and students' own cultures using evidence from authentic sources.	1. analyze similarities and differences, including behavior patterns, among target cultures and students' own cultures using evidence from authentic sources.	1. analyze and explain significance of similarities and differences among target cultures and the student's own culture using evidence from authentic sources.
		2. use knowledge of similar and different behavioral patterns to interact effectively in a variety of social contexts in target cultures and students' own cultures.

Communities

World Languages Content Standard 9

Rationale

This area combines elements from communication, cultures, connections, and comparisons. Students are highly motivated to excel in their study of a second language when they see immediate applications for the skills they learn. As a result of their ability to communicate in other languages, students realize the interdependence of people throughout the world. Language students develop a keener awareness of cultures and are better equipped to function in the multilingual communities that exist in the U.S. and abroad.

Students apply language skills and cultural knowledge in daily life.

Benchmarks

Students will:

End of Benchmark I	End of Benchmark II	End of Benchmark III
<ol style="list-style-type: none">1. identify the target language in the student's daily life and share that knowledge with others.2. locate connections with the target culture through the use of technology, media, and authentic sources.3. locate resources in the community to learn about the target culture.	<ol style="list-style-type: none">1. respond to the target language encountered in the students' daily life.2. establish connections with the target culture through the use of technology, media, and authentic sources.3. interact with members of the community to research the target culture.	<ol style="list-style-type: none">1. interact appropriately in the target language in real-life situations.2. maintain connections with the target culture through the use of technology, media, and authentic sources.3. collaborate and use resources in the community to research the target culture.

World Languages Performance Standards: A Profile of Four Levels

The World Languages Performance Standards describe students' knowledge, skills, and abilities in World Languages on a sequential and developmental continuum. These descriptions provide a picture or profile of student achievement at four performance levels: advanced, proficient, nearing proficiency, and novice.

Advanced: This level denotes superior performance.

Proficient: This level denotes solid academic performance for each benchmark. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.

Nearing Proficiency: This level denotes that the student has partial mastery or prerequisite knowledge and skills fundamental for proficient work at each benchmark.

Novice: This level denotes that the student is beginning to attain the prerequisite knowledge and skills that are fundamental for work at each benchmark.

Benchmark I World Languages

Advanced: (1) A student at the end of benchmark I at the advanced level of world languages demonstrates superior performance. He/she:

- (a) initiates conversations, on familiar topics, comprehensible to a native speaker;
- (b) comprehends and interprets main ideas from authentic material appropriate for his/her level;
- (c) initiates communication orally and/or in writing for a variety of purposes and audiences;
- (d) identifies significant cultural contributions of the target language culture;
- (e) consistently recognizes culturally embedded behaviors and acts appropriately, within familiar contexts, target language knowledge and skills, and cultural understanding;
- (f) eagerly uses authentic resources to identify culturally relevant information and perspectives;
- (g) identifies sound and structural patterns of the target language and compares them to his/her first language;
- (h) identifies and compares significant similarities and differences among target cultures with his/her culture; and
- (i) identifies and expands understanding and information gained through world language study within and outside the classroom.

Proficient: (1) A student at the end of benchmark I at the proficient level of world languages demonstrates solid academic performance. He/she:

- (a) initiates exchanges of simple information (e.g., likes and dislikes, descriptions, basic needs, familiar topics);
- (b) comprehends main ideas from authentic material appropriate for his/her level;
- (c) communicates orally and/or in writing for an assigned purpose and audience;
- (d) identifies some significant cultural contributions of the target language culture;
- (e) identifies, within familiar contexts, target language information and skills;
- (f) uses authentic resources to recognize some cultural information and perspectives;
- (g) recognizes sound and structural patterns of the target language and makes connections to his/her first language;
- (h) identifies similarities and differences among target cultures with his/her culture; and
- (i) identifies language and culture connections within and outside the classroom.

Nearing Proficiency: (1) A student at the end of benchmark I at the nearing proficiency level of world languages demonstrates partial mastery of prerequisite knowledge and skills fundamental for proficiency in world languages. He/she:

- (a) exchanges simple information, with prompting, (e.g., likes and dislikes, basic needs, familiar topics);
- (b) responds to repeated oral and/or written material appropriate for his/her level;
- (c) communicates orally and/or in writing in limited situations;
- (d) recognizes obvious cultural contributions of the target language culture;
- (e) sometimes identifies, within familiar contexts, target language information and skills;
- (f) uses, with assistance, authentic resources to recognize some cultural information and perspectives;
- (g) sometimes recognizes sound and structural patterns of the target language and, with assistance, makes connections to his/her first language;
- (h) identifies some similarities and differences among target cultures with his/her culture; and
- (i) identifies, with assistance, some language and culture connections within and outside the classroom.

Novice: (1) A student at the end of benchmark I at the novice level of world languages is beginning to attain the prerequisite knowledge and skills that are fundamental at each benchmark in world languages. He/she:

- (a) exchanges basic information, with prompting, (e.g., likes and dislikes, basic needs);
- (b) responds to some oral and/or written cues;
- (c) attempts limited oral and/or written communication;
- (d) recognizes, with assistance, obvious cultural contributions of the target language culture;
- (e) seldom identifies, in any context, target language information and skills;
- (f) has difficulty using authentic resources to recognize cultural information;
- (g) seldom recognizes sound and structural patterns of the target language;
- (h) identifies, with assistance, some similarities and differences among target cultures with his/her culture; and
- (i) seldom recognizes language and culture connections.

Benchmark II World Languages

Advanced: (1) A student at the end of benchmark II at the advanced level of world languages demonstrates superior performance. He/she:

- (a) initiates and sustains conversations, on a variety of topics, comprehensible to a native speaker;
- (b) consistently comprehends and interprets main ideas and supporting details from authentic material above his/her level;
- (c) independently and routinely communicates verbally and/or in writing and easily elaborates on familiar topics in a variety of situations;
- (d) analyzes and describes, in detail, significant cultural contributions of the target language culture;
- (e) consistently analyzes and applies target language information and skills to other contexts;
- (f) thoroughly examines and applies information and perspectives of world cultures using authentic sources;
- (g) applies, in limited contexts, sound and structural patterns and idiomatic expressions of the target language, and compares target language to his/her first language;
- (h) observes, analyzes, and explains significant similarities and differences among target cultures with his/her culture; and
- (i) enhances classroom activities by independently seeking new information and illustrating language and culture connections.

Proficient: (1) A student at the end of benchmark II at the proficient level of world languages demonstrates solid academic performance. He/she:

- (a) exchanges information on familiar topics in survival situations verbally and/or in writing and usually understands and produces speech at normal speed;
- (b) comprehends and interprets main ideas from authentic material appropriate for his/her level;
- (c) communicates verbally and/or in writing and elaborates on familiar topics in survival situations;

- (d) describes significant cultural contributions of the target language culture;
- (e) analyzes and applies target language information and skills to designated contexts and other disciplines;
- (f) investigates and applies information and perspectives of world cultures using authentic sources;
- (g) applies, in limited contexts, sound and structural patterns and idiomatic expressions of the target language, and compares target language to his/her first language;
- (h) observes and describes significant similarities and differences among target cultures with his/her culture; and
- (i) contributes to classroom activities by finding and sharing language and culture connections.

Nearing Proficiency: (1) A student at the end of benchmark II at the nearing proficiency level of world languages demonstrates partial mastery of prerequisite knowledge and skills fundamental for proficiency in world languages. He/she:

- (a) often exchanges information on familiar topics in survival situations verbally and/or in writing and usually understands and produces speech at near-normal speed;
- (b) identifies main ideas from material appropriate for his/her level;
- (c) communicates verbally and/or in writing and sometimes elaborates on familiar topics in survival situations;
- (d) describes some significant cultural contributions of the target language culture;
- (e) applies limited target language information to other disciplines;
- (f) investigates and applies information and common perspectives of world cultures;
- (g) applies, in limited contexts, sound and structural patterns and idiomatic expressions of the target language, but has difficulty comparing target language to his/her first language;
- (h) provides limited explanation of similarities and differences among target cultures with his/her culture; and
- (i) sometimes contributes to classroom activities by finding and sharing language and culture connections.

Novice: (1) A student at the end of benchmark II at the novice level of world languages is beginning to attain the prerequisite knowledge and skills that are fundamental at each benchmark in world languages. He/she:

- (a) exchanges predictable information verbally and/or in writing, and relies on questions or prompts to produce understandable language;
- (b) identifies main ideas from familiar material appropriate for his/her level;
- (c) describes familiar topics, but rarely elaborates on these topics in survival situations;
- (d) describes some significant cultural contributions of the target language culture;
- (e) seldom applies limited target language information to other disciplines;
- (f) has difficulty applying information of world cultures;
- (g) seldom applies, even in limited contexts, sound and structural patterns or idiomatic expressions of the target language to his/her first language;
- (h) has difficulty identifying similarities and differences among target cultures with his/her culture; and
- (i) rarely contributes to classroom activities.

Benchmark III World Languages

Advanced: (1) A student at the end of benchmark III at the advanced level of world languages demonstrates superior performance. He/she:

- (a) confidently initiates, sustains, and concludes conversations, in a variety of contexts, comprehensible to a native speaker;
- (b) comprehends and responds to oral and/or written communication intended for a native speaker;
- (c) adeptly uses a variety of language strategies to convey meaning in the target language;
- (d) thoroughly analyzes and evaluates significant cultural contributions to effectively interact in authentic situations;
- (e) integrates and consistently applies information and skills to familiar and unfamiliar contexts;
- (f) independently acquires and integrates world culture perspectives from authentic sources, and communicates new understanding;

- (g) confidently applies, in a variety of contexts, sound and structural patterns and idiomatic expressions of the target language and his/her first language to communicate effectively;
- (h) analyzes and explains significant similarities and differences among target cultures to interact effectively in a variety of contexts; and
- (i) independently and enthusiastically extends classroom learning by seeking out language and culture connections and thoroughly communicating his/her findings.

Proficient: (1) A student at the end of benchmark III at the proficient level of world languages demonstrates solid academic performance. He/she:

- (a) initiates, sustains, and concludes conversations, in a variety of contexts, comprehensible to a native speaker;
- (b) comprehends and responds to oral and/or written communication intended for a native speaker;
- (c) consistently uses a variety of language strategies to convey meaning in the target language;
- (d) analyzes and evaluates significant cultural contributions to effectively interact in authentic situations;
- (e) integrates information from authentic sources and applies that information and skills to familiar and unfamiliar contexts;
- (f) acquires and integrates world culture information and perspectives from authentic sources;
- (g) confidently applies, in a variety of contexts, sound and structural patterns and idiomatic expressions of the target language and his/her first language to communicate effectively;
- (h) analyzes and explains significant similarities and differences among target cultures to interact effectively in a variety of contexts; and
- (i) extends classroom learning by seeking out language and culture connections and by communicating his/her findings.

Nearing Proficiency: (1) A student at the end of benchmark III at the nearing proficiency level of world languages demonstrates partial mastery of prerequisite knowledge and skills fundamental for proficiency in world languages. He/she:

- (a) initiates, sustains, and concludes limited conversations comprehensible to a native speaker accustomed to non-native speakers;
- (b) usually comprehends and responds to oral and/or written communication intended for a native speaker;
- (c) uses some language strategies to convey meaning in the target language;
- (d) identifies and analyzes significant cultural contributions, but needs assistance to effectively interact in authentic situations;
- (e) sometimes integrates information from authentic sources and applies the information and skills to familiar contexts;
- (f) acquires and integrates world culture information and perspectives from authentic sources;
- (g) applies, in limited contexts, sound and structural patterns, and idiomatic expressions of the target language and his/her first language;
- (h) explains significant similarities and differences among target cultures, but has difficulty interacting effectively; and
- (i) sometimes extends classroom learning by locating and sharing language and culture connections.

Novice: (1) A student at the end of benchmark III at the novice level of world languages is beginning to attain the prerequisite knowledge and skills that are fundamental at each benchmark in world languages. He/she:

- (a) engages in limited conversations;
- (b) usually comprehends and responds to familiar oral and/or written material;
- (c) seldom uses language strategies to convey meaning in the target language;
- (d) identifies significant cultural contributions, but seldom interacts in authentic situations;
- (e) sometimes integrates predictable information from authentic sources but has difficulty applying the information;
- (f) sometimes acquires, but seldom integrates world culture information or perspectives from authentic sources;
- (g) recognizes, in limited contexts, sound and structural patterns, and idiomatic expressions of the target language and his/her first language;
- (h) explains predictable similarities and differences among target cultures and seldom interacts effectively; and
- (i) rarely makes language and culture connections to extend classroom learning.